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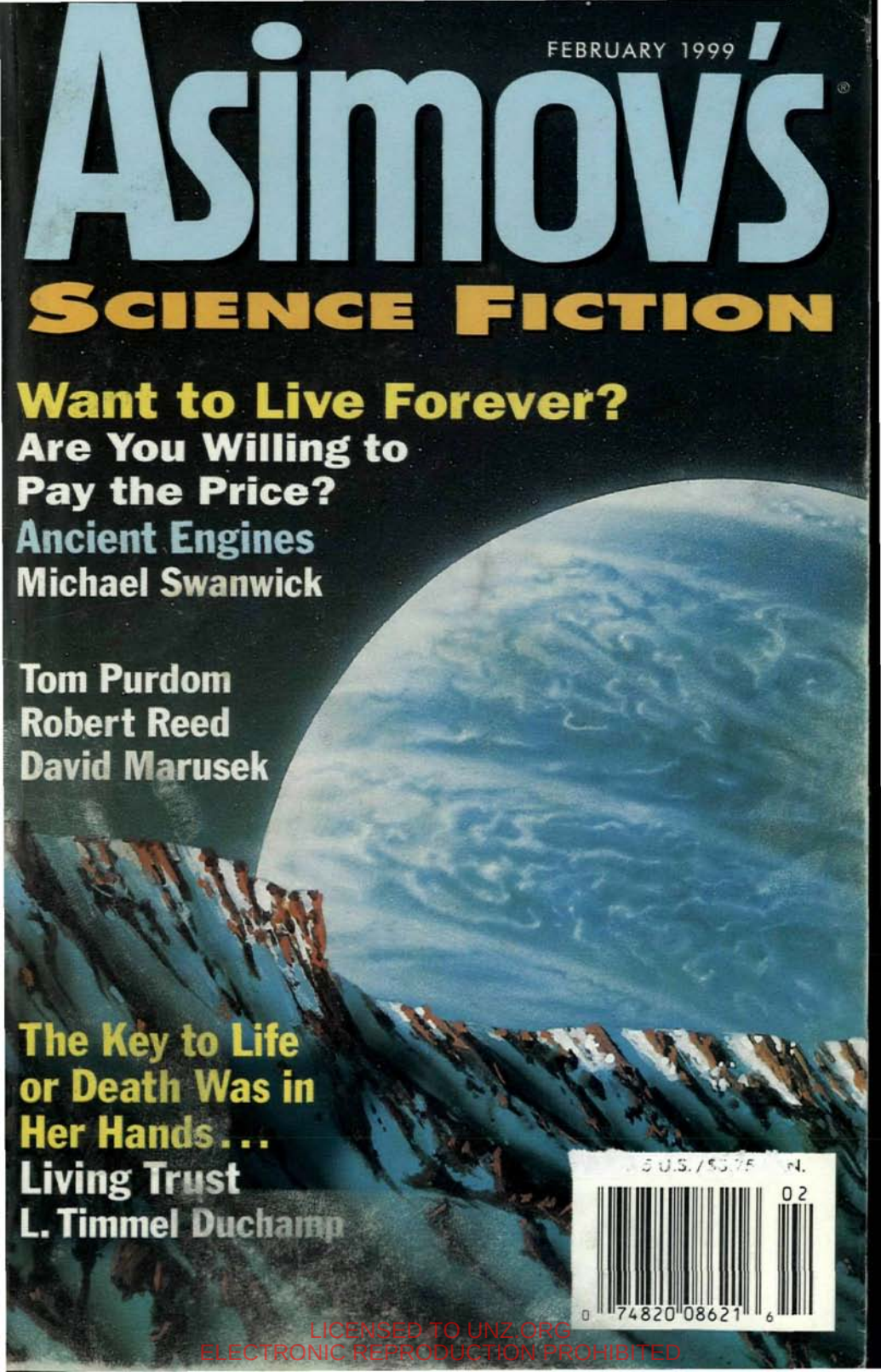

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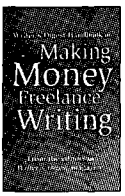

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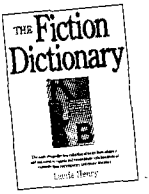

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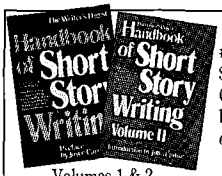

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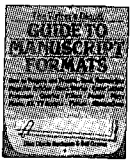

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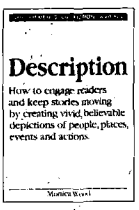
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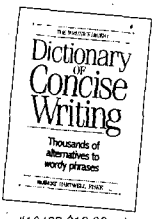

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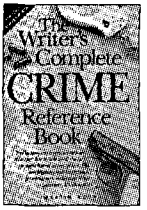

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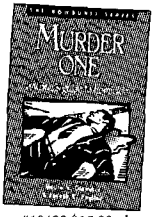

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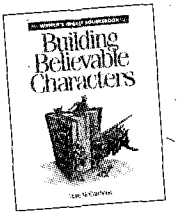

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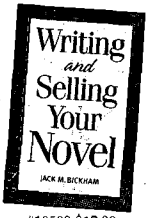

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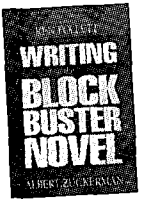

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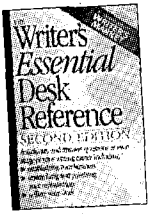

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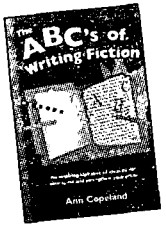

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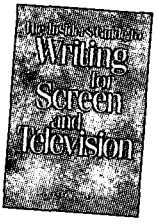

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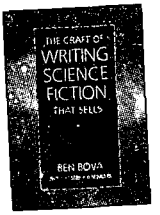

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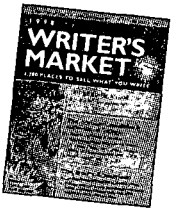

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February 1999

Next Issue on Sale
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Periodical postage paid at New York, NY, and at additional mailing offices. Canadian postage paid at Windsor, Ontario, Canada Post International Publications Mail, Product Sales Agreement No. 260657. POSTMASTER, send change of address to *Asimov's Science Fiction*, Box 54625, Boulder, CO 80328-4625. In Canada return to 3255 Wyandotte Street East, Windsor, Ontario N8Y 1E9.USPS 533-310, ISSN 1055-2146. GST #R123293128

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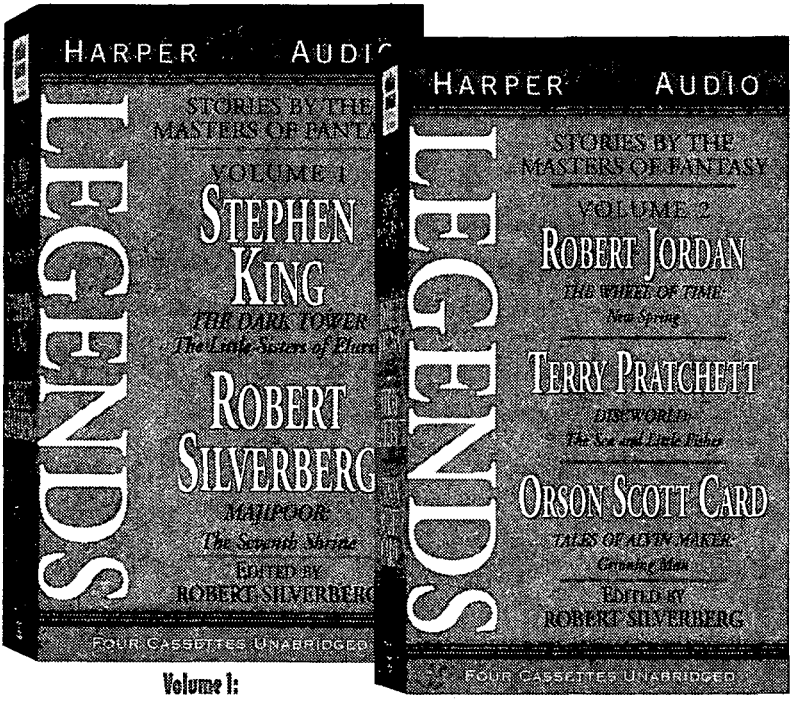

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REFLECTIONS

by Robert Silverberg

END OF THE WORLD CANCELED

So the world isn't going to come to an end on October 26, 2028 at 1:30 in the afternoon, it seems. But it was fun for a while to think that it would, wasn't it?

You know what I'm talking about, don't you? Well, perhaps you've forgotten. The whole hullabaloo happened almost a year ago, after all. That formidable duo, modern-day science and modern-day journalism, brings us a serious apocalyptic alarm every few days, and it's hard to remember them all as they pile up in the buffer. In this case, I'm referring to Asteroid 1997 XF11, which was discovered on December 6 of that year by Dr. James V. Scotti of the University of Arizona, and which—so we were told back on March 12, 1998—was very possibly going to collide with our very own world on the above-specified date.

The news of our impending planetary demise did not emanate from the headquarters of any kind of cult. (Unless you want to argue that the Central Bureau for Astronomical Telegrams at the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts is in fact a cult, that the bureau's director, Dr. Brian G. Marsden, is its chief guru, and that Dr. Peter Shelus of the McDonald Observatory in Texas is his high prophet.) No, the warning came to us from quite unimpeachable sources.

Dr. Scotti, the original discoverer, uses the 36-inch telescope at Arizona's Kitt Peak Observatory to search the skies for small objects wandering through our solar system—asteroids, comets, and similar pesky rogues—that might come dangerously close to Earth in the course of their travels. Soon after he spotted 1997 XF11, two amateur Japanese astronomers located it as well, and their calculations provided sufficient scientific reinforcement to have the asteroid added to the list of Potentially Hazardous Objects—"P.H.O.'s"—on the current worry list. (It became P.H.O. number 109.)

Asteroid 1997 XF11 now became a closely studied object indeed. Further calculations showed it to be about a mile in diameter, big enough to create quite a nasty mess for us if it should smack into the Earth. We might escape outright extinction—the asteroid that is thought to have extincted the dinosaurs, sixty-five million years ago, when it crashed into the Yucatan Peninsula had a diameter six times greater than XF11's—but we would surely be in for a bad weekend, marked by enormous tsunamis, continent-wide fires, and the upflinging of a cloud of dust that would blot out the sun for months and months in what would essentially be a nuclear winter. (Remember those?) Since the Tunguska meteorite that hit Siberia in 1908 was only one hundred yards across and flattened everything over a nine hundred square mile area surrounding the impact zone, a mile-wide hit would be a seriously unpleasant affair.

The early calculations indicated that XF11 would miss the Earth by half a million miles. But then Dr. Shelus, using his observatory's thirty-inch telescope, produced refined orbital figures that suggested that the asteroid, when it arrived in our

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vicinity thirty years hence, would come within thirty thousand miles of us. That would be closer than any asteroid in recorded history—too close, because there was enough margin for error in Dr. Shelus's thirty-years-hence orbital calculations to allow for the possibility of a direct hit.

Thus Dr. Marsden felt obliged to sound the first public warning a week after Dr. Shelus circulated his numbers among his colleagues. His announcement was fairly low-key. Noting that all calculations made so far were approximations rather than certainties, he said it was possible that 1997 XF11 would stay at least as distant from us as the Moon, which is two hundred and forty thousand miles away. "On the other hand," he added, with neat understatement, "the object could come significantly closer than the Moon."

Although Dr. Marsden's own openly stated conclusion was that "this thing probably won't hit us," he did admit that it would come "interestingly close," and suggested that we monitor its path closely in the next few years to determine how great the danger really is—and what to do to head the asteroid off if it turns out to be on a collision course with us.

Which led, of course, to an immediate political flap. A spokesman for the American Astronomical Society pointed out that our government has never developed contingency planning for dealing with an asteroid strike. "It's high time we all started thinking about this problem," he said. The irrepressible physicist Edward Teller is one who *has* thought about it, and he has several times strongly recommended tossing a nuclear bomb at any menacing asteroids. Within an hour of the Marsden announcement he was out there with the H-bomb solution once again. But the Teller plan immediately excited equal and opposite vehemence among those who oppose the use of nuclear

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weapons for any purpose, or who simply oppose anything that Dr. Teller is in favor of. So *that* debate started up again, further stimulated by a remark from Congressman Dana Rohrabacher of California, chairman of the House's Space and Aeronautics Subcommittee, who said that if the asteroid were indeed heading for a collision with us, "we might have to launch an interceptor into space to deflect the asteroid away from Earth."

Why the Sierra Club types object so strenuously to a nuclear explosion that could be set off millions of miles from Earth, thereby sparing the remaining redwood groves from asteroidal incineration, is hard for me to understand. But I began to see the whole issue tied up in political squabbling for the next, say, 29.8 years, with grizzled old anti-nuke demonstraters gamely delaying implementation of the Teller counterstrike until it was too late, with consequent dire effects for those of us who are still around on October 26, 2028.

It happens that I myself will be approaching my ninety-third birthday that year, and so I was able to take a fairly detached view of the situation. If you have to go at all, and I'm afraid you do, what could be worse than going in one great sudden splat at the age of ninety-two? We'd all go together when we went, anyhow. And there was plenty of up-side to the catastrophe. For one thing, it would provide the final solution for the problem of paying for baby-boomer Social Security costs. The oldest boomers would be eighty-three on the day 1997 XF-11 arrived. Even the youngest of them would be of age to draw benefits from our rapidly emptying treasury. But then—blam!—no more Medicare bills falling due! No more boomers! No more anybody!

Then, too, we could stop socking money away in those IRA accounts that we'd rather blow on Mercedes-Benzes or trips to Paris. Who needs an Individual Retirement Account, when there isn't going to be much retirement, individual or collective, to look forward to? Nor would we have to fret about dieting or exercise—why bother?—or worrying about the plight of Tibet, or Microsoft's impending rollout of the incredibly complex and diabolical Windows 2029. The end of the world is coming! Cool!

But just as I was starting to like the whole idea, it was yanked away. A day after his first public announcement, Dr. Marsden offered a partial retraction: "From new data we have analyzed, I would agree that the probability of an impact seems smaller than it did on Wednesday, but it is not zero." The same day, though, Dr. Donald K. Yeomans and Dr. Paul W. Chodas of the Jet Propulsion Laboratory in Pasadena said that *they* had been working over the figures also: "We concluded from rigorous analysis of the error ellipsoid—the region of space in which the asteroid might be during its closest approach to Earth—that this region will not encompass Earth itself." And they added, to make it perfectly clear, "Therefore the likelihood of the asteroid hitting the Earth is effectively zero." In effect, they implied, Dr. Marsden had been crying wolf.

And perhaps he had been. A group of top astronomers—including both Dr. Marsden and Dr. Yeomans—met in Houston a week later and Dr. Marsden indicated that by making his initial statement he had hoped to focus more attention on the situation, which he certainly did, but at the expense of his own reputation, built over forty years, as an asteroid-tracker. The episode, he said, "left a nasty taste in my mouth." Everyone present at the gathering agreed that the whole business might have been handled better if there had been

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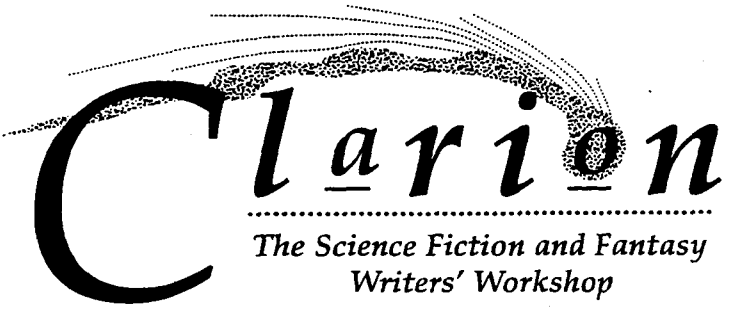

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more communication within the astronomical profession before any public announcements were made.

What is happening now is the formation of a committee to review the 1997 XF-11 data, just in case yet another revision of the calculations is necessary, and to take a close look at the orbits of Earth-threatening heavenly bodies discovered in the future *before* anyone announces that the sky is about to fall. "If it's a real threat," said Dr. Yeomans, "the announcement will be made and steps will be taken to mitigate the threat."

And there *will* be a real threat sooner or later. No scientist doubts that. The Earth has been hit plenty of times before, and it will be again. From another University of Arizona astronomer, Dr. Tom Gehrels, comes this somber thought:

"We have calculated on the basis of what we know of the Earth's impact history that during a human life span of 66 years, there is a 1 in 5000 chance of a major impact."

Something will be done, of course. We'll be watching the skies closely from now on, and if we get any advance notice of the incoming missile at all, we'll divert it somehow, regardless of the political in-fighting that occurs first. There's always the chance that some small but troublesome thing will slip through our currently porous defenses, but a few more false alarms of the XF11 kind and we'll be paying closer attention to such events than we are at the moment.

Meanwhile, though, we need to start thinking about the black hole at the heart of our galaxy, tiny in size but with a mass equivalent to 2.6 million suns, that's gobbling up everything within its reach, nearby stars included. It's only 26,000 light years away and getting closer every day. The clock is ticking, Dr. Teller. What's your plan for pushing the Eater of Everything out of our path. ❍

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LETTERS

Greetings,

I was/am thoroughly delighted with Stephen Dedman's excellent novelette "Transit" (*Asimov's,* March 1998). Though stories about polysexed or hermaphroditic cultures are not unknown, I have not run across many that show monosexed individuals through the eyes of a polysexed majority.

Both Alex and his/her Unconventionally Monosexed friend Aisha are highly sympathetic and believable characters. The issue of Islamic custom and culture is cunningly interwoven into the already problematic background of sexual differences/samenesses.

It's interesting that to me at least, both characters seemed to be female. This assumption may owe something to the fact that the version of *Asimov's* I was reading has recently become available on cassette tape and not in Braille as was the case since the mid-eighties when the magazine first became available for blind folks. The reader who rendered this particular story has a notably pleasant female voice and the story occurred in an issue that seemed, again to me at least, to be a fairly feminine issue. Whatever the reasons for my attraction to the story and characters, I find myself filled with the same glow of satisfaction on rereading parts of it as I write this letter.

I thank you, and authors like Mr. Dedman, for the opportunity to read stories such as this one and the other notable tales that appear in this magazine.

Yours sincerely,

Glynda Shaw
Bellingham, WA

Dear Editors,

I just finished my first *Asimov's Science Fiction* magazine. At my age (64), I should hve been reading them since the magazine began, but since I am legally blind, I was unable to get the magazine until recently. Needless to say, I am trying to make up for lost time. I thoroughly enjoyed the April 1998 issue and am anxiously awaiting the next one. It was a very listenable mag and thank you for that. Sometimes the best books don't do so well when you have to listen to each and every word.

I started reading SF many years ago, before I lost my ability to read—back in 1974. I have enjoyed many of the Golden Age books and miss the types of stories that were so popular at that time. Hope to find more of them.

I liked the mixture of science fiction and fantasy. I also enjoyed the book reviews, especially since I had just finished Damon Knight's *Why Do Birds.* Knight certainly keeps his good writing going and is still a master of the art.

Thanks for a wonderful experience. I am interested in the new authors, especially, since I have little opportunity to read many of them except when they appear in *Asimov's* and in your sister magazine, *Analog.*

Pat Whitten
Berwick, ME

Dear Editors,

Thank you for the thoughtful May issue . . . regardless of the date on its cover, you must have banked on its release just before Passover and Easter and chosen its content accordingly. Especially interesting was Michael Swanwick's story concern-

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ing the effects of the voluntary surrender of free will to "higher" behavioral ends—interesting that the Church opposes it on moral grounds.

Patrick McGrath
From the Internet

Dear Editors,

I just read Paul J. McAuley's "17" in the June issue and thought it was just fabulous. If he is not planning on expanding this story line can you nudge him in that direction?

Mike Esposito
From the Internet

Dear Editors,

As well as enjoying some excellent and intriguing stories it was a pleasure to read Norman Spinrad's Book Review in the June issue. It seems to me that a thoughtful and well written review (complimentary, critical or in between) conributes quite a bit to the success of a book.

D. Fegan
From the Internet

Dear Eds,

Just got the July issue and must say I loved the whole thing from "Mutant Seaweed" to "Starfall."

For me the highlights were "The Literary Agent"—as satirically funny as intended, "egg horror poem"—clever, "Virgil Magus"—mind-boggling. But the absolute, hands down, no-doubt-about-it award-winning gem is "Echea. '

I didn't want to read "Echea" at first as it looked too sad. Well, sad it certainly was, but so well written, so subtle, so haunting, so thought-provoking, I can't get it out of my mind. The kind of story that makes you turn back to the title page so you can find more of this person's stuff. Thank you, Kristine Kathryn Rusch. Thank you, *Asimov's,* for publishing such fine work.

Janice Fore
Bradenton, FL

Dear Editors,

Laurel Winter's "egg horror poem" was a cut-and-save.

George S. Walker
From the Internet

Dear Editors,

Welcome to the online world!

It's just great that you are online—I have been too, for all of two weeks! It's great synchronicity. Just wanted to say "hi," be seeing you! I've been a subscriber since issue #1, love you all.

Lou Judson
From the Internet

Dear Editors,

First, let me say I am blind, and receive *Asimov's* on cassette. I heard the statement for your new site, and so I thought I would come investigate. I would like to let you know that this is a speech-friendly page. I can't say that about 95 percent of those I visit, but this one really is. THANK YOU to the people who designed it!

What I originally planned to write about before I saw (and went euphoric over) this page was Robert Silverberg's June "Reflections" column.

Mr. Silverberg, thank you for remaining fresh; thank you for looking with wonder at what is now happening. Thank you for having the ability to give us entertainment, and broadening our minds. People like you make it possible for things to move from SF to fact. Without you and the many others (many, sadly, gone from us now), this world would probably be languishing in a period of the Dark Ages. You, Mr. Silverberg, Bova, the Robinsons, et al. tell us of wonders which, at the time, don't exist. I can't find fault with them existing later!

And, the fact that you look with a fresh sense of wonder at the passing world doesn't make you crotchety—

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just the opposite! If mankind ever loses his Sense of Wonder he is lost. He might as well count himself as useful as a piece of dust.

Again, let me thank the people of *Asimov's* for a wonderful page. Gonna go explore and have fun now!

Jody Day
jday@nctc.com
Lafayette, Tennessee

Dear Editors,

I congratulate you on having a website that is accessible to the blind with speech or Braille input. I am currently using a speech synthesizer and have found the site to be accessible. I discovered the site in the current issue of *Asimov's* that I receive on cassette from the National Library Service.

Thank you,

Tom Brennan
From the Internet

Dear Mr. Kelly:

Re: August 1998 "On the Net": I believe "jaunting" would be an appropriate metaphor for employing the Web.

Thank you.

Gully Foyle
From the Internet

Friends—

I have just finished R. Garcia y Robertson's story "Starfall" in the July issue and I loved it!! This is the kind of "Hard Science Fantasy" I have enjoyed most of my life—and have really missed, until now.

I urge you to publish more of this kind of "Barsoomian" story (and I use that adjective with respect—Sr. Garcia, this is meant as praise!). With thanks for many years of pleasure . . .

Ann Franchi
Central Florida

Dear Editors,

It was with great joy that I stumbled onto your website. I have been an avid reader of science fiction for most of my life—and I'm fifty. I have read almost all of Dr. Asimov's works, both science fiction and reference books as well, and it has brought many hours of enjoyment. You can rest assured that I will be returning to this wonderful, well thought out, and enjoyable site often.

Thank You,

George Zahniser
From the Internet

We welcome your letters, which should be sent to *Asimov's,* 475 Park Avenue South, New York, NY 10016, or e-mail to **asimovs@erols.com.** Space and time make it impossible to print or answer all letters, but please include your mailing address even if you use e-mail. If you don't want your address printed, put it only in the heading of your letter; if you do want it printed, please put your address under your signature. We reserve the right to shorten and copy-edit letters. The e-mail address is for editorial correspondence *only*—please direct all subscription inquiries to: P. O. Box 54625, Boulder, Co 80322-4625.

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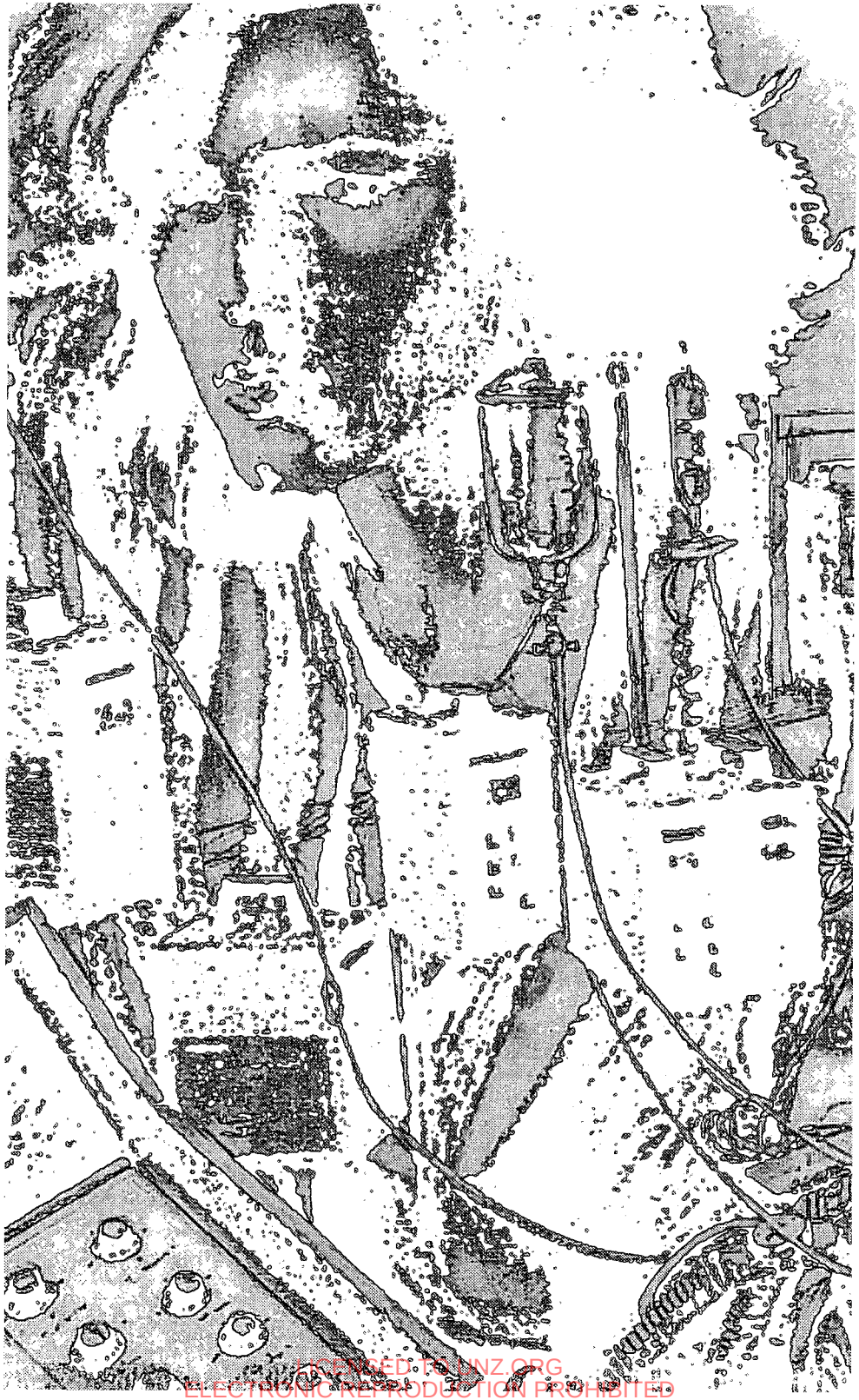

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L. Timmel Duchamp

LIVING TRUST

An article by Gail Vines, "Where Did You Get Your Brains?" (New Scientist, 3 May 1997), sparked the author's fascination with the mysteries of genetic imprinting by "describing what happens when researchers attempt to reverse the imprinted pattern of paternal and maternal genes that normally control development in mouse embryos. Switching on paternal genes for controlling cortical development makes the mice super-stupid. The questions this raises for evolutionary theory are positively enthralling."

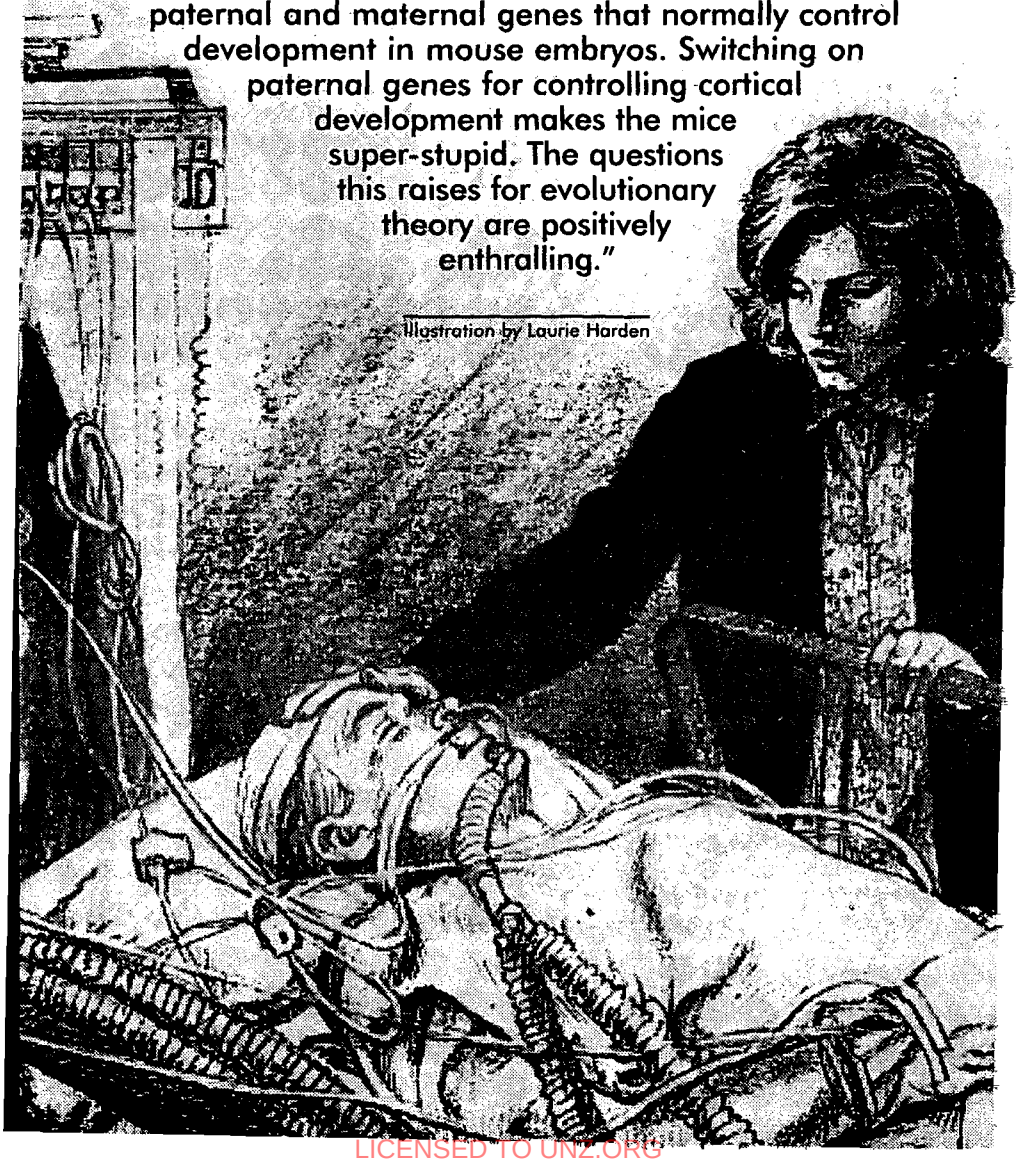

Illustration by Laurie Harden

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On that gloomy February morning, Kate Abbotson's personal phone woke her a scant ten minutes before her alarm was programmed to. She had been dreaming that the misting system in her vivarium refused to shut off. The caller said, "This is Lady Godiva." Kate, slow to wake, pictured a woman seated on a horse, naked under flowing, ankle-length hair. "Is this Kate? The thing is, it's about Mike." *Mike.* Kate snapped to. This was Godiva, the pop video artist whom her father had been seeing for about two months. "Well, I'm sorry to have to tell you this. I really, really am. Like, I was sleeping when some weird siren kind of alarm on Mike's phone went off. It was about five to seven, I guess. I rolled over to look at him, to see why he wasn't doing something about the racket, and, well, he was completely out of it. I mean, he was unconscious. His face looked terrible, and though his heart was beating, he wasn't breathing that I could tell. So I called 911 right away, and then did artificial respiration until the paramedics came. He's in an ambulance now, on his way to Cedars-Sinai. I knew I should call you, but I didn't have your number. Then I noticed that Mike's phone had a shortcut for you, which is how I reached you."

Kate sat up. Her hand was gripping the phone so hard her palm started to cramp. "Daddy?" she said, just managing to get the word out. "Daddy's . . . ?" She was shivering violently. Her mind had totally blanked of everything but the vivid images Godiva's words summoned up.

Godiva repeated everything, then said, "Kate, I'm sorry. I'm really, really sorry. I'm going to go to the hospital, of course, myself, but since I'm not a relative, I don't know if they'll even let me near him. But . . . is there somebody else I should call?"

"I'll have to get down there right away," Kate said hoarsely. "It shouldn't take me long." Her mind zoomed into focus on the practical. There were commercial flights to L.A. from SeaTac every hour of the day. Or would it be faster to charter a plane? She said, "I, I, I think my father would want his attorney to be notified ASAP. But I'll see to that myself." She was babbling, and there was nothing more Godiva could tell her. Somehow she managed to thank the woman, say she'd see her at Cedars-Sinai, and disconnect. She had to pee badly—her teeth were chattering partly from that need and partly from the tension—but she input Matt Hull's personal number immediately anyway, and *then,* when she had him on the line, went into the bathroom, collapsed onto the toilet seat and let loose with not only a stream of urine but a flood of diarrhea as well. She gave him the news, indifferent to his hearing the racket she was making in the toilet. She thought about how lucky it was that her father had gotten that implant set to trigger his phone alarm if he stopped breathing or if his heart stopped beating. Obviously, if Godiva hadn't woken up and given him artificial respiration . . .

"An *ambulance?*" Matt said. "Does he have his security with him? And why the *hell* haven't I heard all this from *them?* Tell me again, Kate, *exactly* what Godiva said."

She repeated what little there was to tell. "What does it matter if his security is with him?" she said. "Nobody's going to be abducting him on a totally random 911 call."

"Abduction is the least of our worries," Matt said. "And short of his hemorrhaging severely, or going into cardiac arrest, the orders to his security are that he's to be brought home, to University Hospital, pronto, without detours. Cedars-Sinai is one of the *last* places he should be going."

"For godsake, Matt, he *stopped breathing!* It's possible he's had a stroke! His

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father and his grandfather both died of strokes!" Her father had made stroke research one of the biggest areas of his philanthropy. She swallowed. "And everybody knows, with certain kinds of strokes, if they inject that drug, you know the one I mean, within the first three hours, the damage can be minimized. Of *course* he needs to be taken to the nearest decent hospital down there!"

"Kate, Kate, *please*. Get a *grip*. You don't know the whole situation. What I want you to do is give me five minutes—ten max—to see what's what and make the necessary arrangements. And in the meantime, if you're not already dressed, will you please do that, and do what you have to do to prepare yourself for whatever Mike is going to need of you. Okay, Kate? Will you do that?"

What the *hell* was going on? What wasn't he telling her? "Ten minutes, max." She clung to the promise. "And then I want some kind of explanation for why you think I should let you take that kind of risk with my father's *life*."

Shakily she put the phone down on the magazine table beside the toilet. The only thing that made sense was her going to L.A. to be with him. Once he was admitted to the hospital they weren't going to say to the security guys *oh sure, go ahead, just ship him up to Seattle.* No. Hospitals had rules and procedures they followed as long as they thought the patient was good for the charges. And there was no bean-counting, rule-toting bureaucrat like a health-care bureaucrat, for sure.

What was the weather in L.A., anyway? she wondered as she dithered over what to wear. Somehow she managed to get herself into a T-shirt, jeans, thick cotton zippered sweatshirt, socks, and boots. She carried the phone with her every step she took, as though she dared not be out of arm's reach of it. While she washed her face and brushed her teeth she thought about how bizarre Matt and her father had gotten about security, and about all the arguments she'd had with her father over her refusal to have the same kind of security he had. According to him and Matt, she was a perfect mark for abduction. Didn't she know that? Any lunatic might imagine she'd be worth a cool billion—at least—to him. Not to mention the Spiters, who especially targeted people like her and her father. She just wouldn't be *sensible* about the matter. . . .

The phone chirped as she was tossing underwear and toiletries into an overnight bag. Matt said he was just about ready to leave his house on Mercer Island. He had an L.A. colleague who owed him a favor already on his way to Cedars-Sinai. And he'd located the security team and they were on their way there, too. They said they hadn't been on the scene because Mike had sent them away with the car with orders to return at eight A.M. Which was so damned typical of old Mike, wasn't it. Anyway, Matt said, he had somebody locating her father's pilot, with orders that her father's jet be ready to go. And finally, he'd had a little chat with the CEO of Best American Health, Inc., which owned Cedars-Sinai. If everything went according to plan, her father would be en route by the time Matt arrived at her place.

Matt was telling her something, but in code outside her level of access. When she tried questioning him about why her father must be kept out of Cedars-Sinai and insisted that he shouldn't be taking that kind of risk with her father's health, he said would she please calm herself, that she didn't know what she was talking about and her assumption that she did was just making her hysterical, that if she'd just be patient he'd explain everything when he saw her.

Kate tucked her phone in her pocket and went out to the kitchen. She was more upset—if possible—than before. She considered calling him back so she could yell and scream at him. She even thought of calling up Cedars-Sinai to

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try to countermand Matt's orders, but backed off it, because her apparent out-of-loopness made her fearful of fucking up out of ignorance. She just wanted to *do* something, something that would make the disaster go away. One of the J's, she saw, had made coffee. Joel, probably, since he'd left her bed before Godiva's call woke her. Shakily she poured herself a cup, then wandered through the house in search of either or both of them. Cracking the door to Jeff's room, she found that he was still sleeping. But then Joel was always the first up. She tracked him to the vivarium, where he was doing pushups in the thin gray light the many plants in the room tinted green. She set her barely sipped cup of coffee down on a table and went and crouched near his head. He grinned at her. "Morning!" he gasped without losing his rhythm.

Her eyes filled with tears. "It's my Dad," she said tremulously. "He's had a stroke or something."

"Oh, hey." Joel gracefully slung himself up into a crouch and put his thick, ropy arms around her. His warm, caring solidity comforted her, though it didn't make the great acidic pit of fear in her stomach go away but rather made her tears start to flow. She thought, irrelevantly, of her father's first reaction to her decision to live with Joel. *My God, I don't believe it. You're shacking up with a guy who's some kind of male version of a bimbo—right down to the blond hair and gold nose rings? Shit, what kind of reflection is that on* me? *A woman's supposed to go for men who're like her father!* At least he'd stopped calling Joel a "bimbo," even if he did still joke about Joel's "babeness." (Hell, *she* joked about it herself.) "You want me to come to the hospital with you?" Joel asked. "Just say the word and I'll trade shifts with somebody."

Kate loosened her clutch on him and stepped back so that she could look at him. "Everything's a mess," she said, brushing her eyes with her sleeve. "My Dad's in L.A. But his attorney has made arrangements over my head to have Dad brought back up here, instead of being treated down there."

"After a stroke? That sounds kind of . . . weird."

"Yeah," she said, and her fear fanned into a surge of anger. "Not that we know it's a stroke, for sure, just that Godiva found he'd stopped breathing and was in some kind of coma." Just saying the words so overwhelmed her with fear again that her spurt of anger at Matt was damped.

The blue cursor appeared in her upper peripheral visual field and began its slow, constant blink. Kate realized it must be eight. The blue cursor was set to start blinking at eight if she hadn't checked the day's calendar and memoranda by then. Kate winked three times with her right eye to bring up the calendar. Of course, she thought, this would have to happen on a really busy day. She pulled back from Joel and took her phone from her pocket. "I need to call the office," she said.

She expected to get Voice Mail, but highly responsible Eric answered, and so she was able to dump all of her schedule (except dinner with Marjorie) into his lap with the full expectation that there'd be no repercussions. When she disconnected, Joel said, "Is there anything I can do?" His big sweet baby blues regarded her with comforting concern.

Kate said, her voice barely steady, "You know, I keep thinking of how he was always telling me that in spite of all the social instability, how wonderful it was that we were living now, because science is so close to giving us unlimited lifetimes. I think he really thought he had all the bases covered. His health was good, his body fit. Not like his father or grandfather. Constantly taking Vitamin E, constantly grazing on fruits and vegetables for their beta carotene and potassium, I mean you wouldn't believe how much carrot-juice

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he drank, and as for potassium, hey, potassium could have been his middle name, he had a real obsession about it, he practically had grapes and bananas coming out of his ears. . . ." Thinking about her father making himself carrot-juice cocktails three times a day pushed her over the line into Big-Time tears. It had to be bad, if he was unconscious. She knew that. Damn Matt. Damn Matt for his obsessions with security. Her Dad was too young to be having that kind of stroke. He was in good shape, too good to have been at serious risk.. It just really wasn't fair, just wasn't fair at all. But then Daddy himself would be the first to say fairness was a concept meaningful only to the weak.

Minutes after Matt handed her the medical and legal powers of attorney her father had assigned to her for use in just such a situation, Kate met with her father's primary physician, the head of the neurosciences department at the UW medical school, and a specialist in neuromedicine chosen by the head to attend her father. The docs weren't happy that Matt had had her father moved before he could be properly diagnosed. One member of her father's security team was a paramedic, Matt said. He'd worked for the Seattle Fire Department for ten years before going into the security business (which he'd apparently done when the city had laid off half its firefighters).

"If you'd allowed even one CT scan, we'd have a fighting chance," Jordan Bentoit, the stroke specialist, said. "But given that all we have to go on is the sole fact that he's unconscious . . ."

The way he shook his head sent Kate into a panic. "What are you saying? That he's not going to make it?" Bentoit shrugged. Kate glared at Matt. "If he dies because he didn't get prompt treatment, Matt, I swear to god I'll—" She bit her lips to keep from delivering the threat. There was no way she could accept the cockeyed story he'd given her—his explanation for why he'd had the security team and the colleague who owed him a favor prevent any personnel at Cedars-Sinai from getting near her father. Doctors, he said, were now numbered among the ranks of other fallen middle-class folks who'd chosen to become Spiters. And her father, he claimed, had been receiving death threats from doctors who held Michael Abbotson personally responsible for putting them out of work, from other doctors who were afraid of being put out of work once Abbotson Interactive Designs, Inc. had gotten around to modeling *their* specialties and whose level of compensation had already dropped drastically, and from a variety of medical personnel similarly impacted. Kate, hearing this, simply took her phone out of her pocket and called L.A. information for the number of Cedars-Sinai. But then Matt had pulled a document out of his attaché case, which the barest of glances that he allowed her revealed to be a living trust with her father's signature, explicitly stating that if he wasn't in imminent danger of dying on the spot, he was to be taken to University Hospital and treated there. He said he'd faxed a copy of the document to the colleague he'd sent to Cedars-Sinai, "just to be sure they don't try to make an end-run around me. Now don't yell at me, Kate. You *don't* know the situation. And that's strictly because Mike didn't want to worry you. Your ideas about the Hippocratic Oath are a couple of thousand years old. At least one of these paragons of human morality took out a contract on Mike and would be serving jail time right now but for the fact that Mike didn't want the publicity an arrest and trial would have generated." Though she didn't buy into the paranoia her father apparently shared with Matt, she had seen that although she held her father's medical power of attorney, her hands were tied by the living trust that rendered her helpless to oppose it.

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Lee Park, the head, shot Bentoit a Look. "Let's not be leaping to conclusions prematurely," he said sharply. "Until we run some diagnostics, we won't really know. And of course, we don't *know* that it's a stroke. What we want to do now is have everything set to go on his arrival. I've ordered Life Flight to copter him from Boeing Field; they're already on site, standing by. And I've pre-empted the one private bed we have in the Stroke Unit for him, and scheduled a run of diagnostics. I want you to feel fully assured, Ms. Abbotson, that your father will be getting the very best care possible."

One of her father's companies owned his department. Of *course* he would have to say that, she thought resentfully. She looked down the table at Penny Eliot, who had been largely silent. "You know my father's medical history better than anyone," Kate said. "What do *you* think?"

Penny looked grave. "This event, whatever it is, is completely unexpected. Mike, as you know, has had free-radical-cleansing and deoxidizing nanocytes in circulation in his blood for five years now. His blood pressure has been good. I would have said his cardiovascular outlook was excellent. Of course, that doesn't mean that he couldn't have had a stroke. But given the paucity of information to go on, I haven't ruled out some sort of mass." She glanced at Park. "I would suggest we review his past MRI and CT-scan records in the time we have before his arrival."

"A mass is extremely unlikely," Lee Park said coldly. "In the first place, when I spoke to the paramedic with Mr. Abbotson on his plane, he reported that the patient is hypertensive. And in the second place, Mr. Abbotson would no doubt have reported a variety of symptoms well before the event if a mass were the cause of his unconsciousness."

Penny nodded. "I'm inclined to think so, too. But I want Kate to understand that we're operating in the dark until we've actually seen him."

Matt shoved his chair back from the table and stood up. "Kate, why don't you and I go have some coffee, maybe get some breakfast. There are a few things we need to discuss, and I'm sure these folks will be better able to plan your father's treatment if we're out of the way."

Kate followed Matt out of the room. She'd never much liked him, but she'd never actively disliked him, either—until now. He was her father's oldest buddy. Her father's business was his entire law practice. It was time for her to demand a copy of the living trust he'd been waving in her face earlier. Maybe there was nothing she could do *now* to help her father, but at least she could get herself prepared for the possibility of doing something in the near, very near future.

Somehow the news sharks got hold of the story and began their siege at University Hospital even before her father's jet landed at Boeing Field. She and Matt decided between them that he would deal with them. He was probably delighted to do so, Kate thought, probably thrilled at the opportunity of playing the dude-in-the-know, the intimate, close adviser of the Great Man (who might very well—story of stories—be *dying*). Kate wished him joy of it. *Her* job was to deal with Penny Eliot and the specialists, make whatever medical decisions would have to be made—and view the laserdisk her father had apparently made for her in case of such a situation as this, which Matt had so thoughtfully brought with him.

Lee Park arranged for her to view the disk in the same conference room in which she and Matt had met with the docs. Kate loaded the disk into the drive with deep trepidation. Her father owned a vast empire and many, many se-

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crets. She had made her discomfort with his empire and secrets in every way plain to him when, on her graduation from college, he'd tried to draw her into his business. Eventually, accepting her position, he'd settled a hefty trust on her with no strings attached. But it would be like him, she thought now, to assume she could be emotionally blackmailed into trying to attend to his interests at a time when he could not do so for himself.

His image came straight on, without introduction, two-dimensional but larger than life-sized on the flat wall screen. "Hi, Kate," he said, smiling in one of his engagingly goofy looks. "If you're watching this, it must be because I'm either paralyzed and unable to speak, unconscious, or of diminished capacity, due to a trauma or some other problem with my cerebral cortex. I have to admit I can't really imagine what you must be feeling now, so forgive me if I seem a little too breezy. I don't suppose you'll be very surprised to find that I've got a variety of contingency plans in place if any of a number of misfortunes strike. I know you're seriously opposed to getting involved in any of my business affairs, so I've mostly arranged to have other people deal with the details, under Matt's direction. But the fact is, you're the only one I trust to carry out and make all the big important decisions that might crop up, especially the personal ones. Which is why I've got to burden you with my medical power of attorney." The image of her father leaned forward and loaded a super-serious, sincere look, the kind he adopted for what he called "our deep-shit, heart-to-heart mode." "Honey, my basic wish is that you use every resource available to keep me going. Seriously. I don't want the plug pulled. I have faith in those guys at University Hospital. Hell, I've been paying their salaries for years, and they've got the best of reasons to think my perpetuation is in their vital interest. I know, I know, I've talked with them about what's likely, and what's possible, so I know that if I'm unconscious then the prognosis is really, really bleak." Kate's bowels clenched. *That* was new information. Shouldn't the docs have warned her, right from the start, if that was the case? "And cell damage in the brain," her father's image said, "is no joke. If my cerebral cortex is too damaged to ever recover, I want you to give Joshua Bledsoe the okay to attempt cell regeneration using fetal tissue created from my DNA. Bledsoe has been working on this for years, Kate, regenerating small, damaged sectors with great success. He's been doing incremental sorts of trials for the last couple of years. If there's no hope for the viability of my cerebral cortex, I want to be his first large-scale regeneration case."

Kate's stomach, already tender, heaved so violently that she paused the file, staggered up from the table, and sought a waste receptacle. They'd never discussed such things between them. They'd never even discussed the ethics of conceiving children to be organ donors for parents or siblings in dire need. To spring this on her, without first sounding her out . . . but of course, she thought bitterly. He'd obviously been *afraid* to talk to her about it—afraid it might put him in the position of knowingly asking her to do something she considered morally despicable.

Kate resumed the file. "Knowing you, you probably think this sounds selfish, Kate, but it's not as though I haven't made one of the biggest contributions to Progress in the history of the world." He grimaced. "Yeah, I know, you don't believe in Progress the way I do. Still. I've done a lot, and have a great deal more I want to do. The infirmity and vulnerability of the body is a hurdle—a terrible hurdle, but, being a hurdle, not insurmountable." He drew a deep breath, as though preparing her for more. "Kate, there's something else. You'll have to go to the House for it, though. House will let you into the vault if you say, in your

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own voice, the password phrase, `House, this is Kate. Tell me where the vault is and let me into it.' In the vault you'll find not only the codes needed to access the entirety of my various business projects—which I've told Matt he'll have to go through you to get, and for which I'm hoping you'll demand proof of necessity before you hand anything over. But you'll also find reports on a research project I've been very, very privately supporting. Kate, no one knows about this project but the two teams I have working independently on it. You know my faith in competition; well, I've set them up so that each of the teams knows they're working in competition against the other. The project they're working on ties in with Bledsoe's regeneration project. I won't explain more now, because it's so complicated. You need to see the reports in the order I've arranged them." Her father cleared his throat and took a sip of water. "God, Kate, I'm so nervous you'll disapprove of this and let me down." And for a moment, he *did* look nervous. "Honey, please. Even if you have moral reservations, please, please, honor my request. A miracle is at stake. A miracle for me—if it works—and a miracle for the fate of the human species. Please, Kate. *Please.* Don't let me down. Not now, when I need your help so badly." Kate stared at the screen. Her father was actually crying. *Tears* were streaming down his face. Kate stopped the file, popped the disk and pocketed it. *Crying.* To manipulate her, goddamn it. Crying at the thought of his own mortality. Crying at the thought of all his contributions past, present and future—to Progress.

Her own eyes were teary, her throat tight. "Way to go, Dad," she said angrily. But then the man, as everyone had been claiming for years, was just a fucking genius.

On the same large flat wall screen, Penny Eliot and Jordan Bentoit showed her CT visuals of the damage the stroke had done, mainly to the cortex. She could see for herself the big blot that they called a hematoma, the main source of the bleed, in the thalamus. "The worst of it," Bentoit said, "is the intracranial pressure caused by the hemorrhage and cerebral edema." He laid down the light pen that he'd been using as a pointer and looked directly at her. "I must be frank. The prognosis, without surgery, is certain death."

Kate flinched. He wasn't pulling his punches, she had to give him that.

"The treatment options for this kind of stroke are limited. The main problem, as I said, is the edema. He's of course getting mannitol, which is an osmotic diuretic, intravenously, but edema is a difficulty that the body itself still copes with the best."

"What about programming nanocytes to relieve the edema?" Kate asked.

Bentoit rolled his eyes. "Ms. Abbotson, I realize there's a popular conception that nanocytes can do anything you want them to, but I assure you that's not the case with edema. No better than drugs can."

A hot flush spread over Kate's face. She would ask Jeff to explain. "And the surgery? Would that also help relieve the edema?"

"Surgery would allow us to evacuate the hematoma itself, as well as assist with some drainage, which, yes, can help somewhat to control the edema."

Kate caught Penny Eliot's frown. "And the downside of surgery?" she said.

Bentoit shrugged. "Given our visualization techniques and what we can do with surgical lasers, the odds are getting better all the time. Especially for someone as fit as your father. The downside is that it's difficult surgery because of the hematoma's location. I'd give your father's odds of surviving it at 70-30."

"And you, Penny?" Kate said, aware that her father's personal physician

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was still frowning. "What do you think?" Penny's quiet gray eyes glanced at Bentoit, then focused firmly on Kate's face. "Jordan is the expert here. I don't know anything about odds, except that this kind of surgery is highly risky, and it's often the case that when surgery saves the patient's life, it is at the cost of setting neurological deficits." She paused, drew a deep breath, and added, "Unfortunately, I concur with Jordan's assumption that your father will not recover otherwise."

Neurological deficits. It was an abstract economic term, maybe, but it described the problem as a form of debt no amount of money could ever pay off. Kate's throat had gotten almost too dry for speech. "You mean there's little room for hope."

"I wouldn't say that," Bentoit said sharply. "Seventy-thirty are not hopeless odds."

Kate registered the spatter of rain on the window behind her. She said, "When do you want to do this?"

"Immediately." Bentoit shoved the consent form across the table at her.

There was a question Kate hadn't asked. Now, she knew, was the time to ask it. But she also knew what her father wanted: he had made that as plain as the rain on the other side of the window. A certain kind of answer to the question might make her hesitate.

Without another word, Kate signed the form.

Ignoring the attendant seated on the other side of the bed (its head elevated a precise 30 degrees), Kate sat staring at her father's slack, empty face, at the tubes and monitors, at the restraints designed to keep him from injuring himself during a seizure. Seizures, apparently, were common after strokes. Her father's brain, Kate thought, must be in a state of confusion, perhaps firing off neurons at random, certainly flooding itself with unwanted amino acids like glutamate, an organism under attack striking out at random.

In the time remaining before he was taken away to be prepped, she talked to him. She stroked his hand and spoke softly, steadily, about the minutiae of managing the current installation at the S.A.A. (which she funded and managed), about their hikes the previous summer in the Cascades, about her plans for a new garden. He looked strangely old lying there, as she had never seen him. His long gray hair had tangled into a straggly, ratted mess that made her want to run out and buy a brush so that she could straighten and smooth it out. Talking her already hoarse voice into a whisper, she silently tried to convince herself that she was doing the right thing.

Besides her anxiety about her father's prognosis and her own possible obligations, she felt a growing uneasiness about the hospital in general, and the specialist doctors in particular. (Penny Eliot, whom she had known for years, she trusted.) She kept thinking about all that Matt had told her about the many doctors with a violent resentment toward her father. Consciousness that the entire Neurosciences Clinical and Research Division of the University of Washington Medical School was a subsidiary of one of her father's companies particularly bothered her. Matt claimed her father had that *going* for him here—as opposed to any other clinical site. Kate wasn't so sure, though she could see that they might be worried that without her father the department would be liquidated without a second thought.

Who *was* it who had told her that US-trained doctors were flocking to the southern hemisphere, where technology hadn't yet supplanted human expertise? Even as she whispered trivia at her father, she wished they had talked

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about these issues, but even as she wished, knew that their relationship might not have stood such a discussion. Her mind, now, was numb. She had given the consent on automatic pilot. She knew she didn't know what she was doing.

"Oh!" she gasped at the sudden flurry of spasms rippling over the right side of his face.

"Just a little electrical activity, Ms. Abbotson," the attendant said—officiously, Kate thought. As though that "just" must obliterate any wild ideas she might foolishly begin to entertain out of the appalling depths of her lay ignorance.

The door opened and three attendants charged in with a gurney. "We'll have to ask you to leave, Ms. Abbotson, so that we can get the patient down to surgery now," said one of them, a woman in blue cap, pants, and gown who wore a black and silver stethoscope as if it were a necklace. "I understand that Dr. Park has made an office available to you, if you decide you want to wait out the surgery here in the hospital. In any case, he has your personal phone number and will call you as soon as the surgery's been done."

"Very well," Kate said, knowing they didn't want to be shifting her father around and maneuvering all his tech-attachments with her watching. She bent down and kissed his forehead. "The Force be with you, Dad," she whispered into his ear. It had always been his favorite sendoff. If anything could get through to him, that would.

When Marjorie Kinney lured her out of the hospital for a meal, Kate was surprised to find it was already evening. To avoid the hordes of news sharks milling about in the lobby, they left through a side door in the Health Sciences complex. "Both the J's will probably be here by the time we get back," Marjorie said as they crossed the street to the bus kiosk. "I've been in touch with them all day, and both of them kept wondering if they should cut work, but I told them that I'd hardly seen you at all, you've been so occupied."

Kate blinked, as though to clear a haze from her eyes. The soft mist felt startling and fresh on her face. It was almost, she thought, like coming out of trance. "I'd just have felt guilty about them missing work—and maybe even for ignoring them. They're both really sweet, but they're still, of course, *guys*."

Marjorie gurgled her characteristically quiet, wry laughter. Suddenly self-conscious, Kate glanced around, but saw no one who looked like a news shark anywhere in sight. Certainly they wouldn't be expecting to find her taking mass transit. A #43 bus pulled up. "This one goes to the U-District," Marjorie said. They boarded, and did not speak for the short ride to the Ave. "Jan's Noodle House okay?" Marjorie said as they deboarded.

It was half a block away. "Sure," Kate said, certain she wouldn't be eating much anyway.

They ordered pad Thai, salads, and beer over the table's intercom. "I have to say I'm pretty confused," Marjorie said. "All the news nets say that your Dad was in L.A. at the time of his stroke—with Lady Godiva, in fact. And the J's say he was, too. So why isn't he in a hospital down there?"

Kate leaned her elbows on the smooth Formica surface of the table and scrubbed tiredly at her face, as if dermal friction would make her mind work better. "I'm as confused as you are," she said. "Basically, my Dad's lawyer insisted that my Dad be treated only at University Hospital, and since he had a legal document signed by Dad, none of us had any choice but to fly him up here." Kate bit her lip. She wasn't as confused as she had been; she had an idea that whatever secret research projects he was funding had everything to

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do with it. "Matt says it's all to do with security issues. Some doctors, he claims, have become Spiters. And that there have been death threats made against my father by some doctors in L.A."

Marjorie's face went into overdrive. "That's incredible," she said. "Of course he *is* rich, important and famous, and there have always been crazies wanting to assassinate high-profile types for the infamy. But *doctors* as Spiters . . ." She snorted. "That's something else. I thought most of them had investments keeping them in the middle-class, giving them too much to lose to think of Spite killing."

"Yeah, me too."

"Speaking of famous people. It's interesting, very interesting, that he was with Godiva. You've never mentioned meeting her."

Kate took a long swallow of ice water. She'd been forgetting to drink water all day. "That's because I haven't," she said. "He'd only been seeing her for about two months."

Marjorie chuckled. "Anyone else would have broken their necks at the chance to meet her. What, did you want to wait to see first if it was going to last?"

Kate smiled faintly. "If I understand correctly, she saved his life with CPR."

Marjorie's gaze held Kate's. "The news sharks haven't reported that. I guess that's a lesson that one shouldn't judge the character of a music-video star by her work."

The mechanical server set the beer and food on the table and asked them if everything was all right. The first bite of noodles sent a burst of saliva gushing into her mouth. Suddenly Kate was ravenous. The hospital seemed another world, and her father's request like a bad dream. Marjorie was such a sensible, low-key person. Though she constantly worked indefatigably on high-intensity creative projects, Kate had never seen her stressed in the ten years she had known her. Putting anything into words for Marjorie almost required a calm, balanced perspective, since that was the only sort of perspective Kate had ever known Marjorie to respond to. So as they ate, Kate considered telling Marjorie everything that she knew. She tried to imagine what the words to articulate it might be, tried to imagine feeling lucid and calm. But what she felt was numb, exhausted, and close to tears. What she felt was betrayed and abandoned. What she felt was nothing she could imagine expressing to Marjorie—yet. And so they just ate, and drank water, and used the rest-room before returning to the hospital and the wired-up, still unconscious body of her father.

Draining the hematoma, the docs told Kate, had saved her father's life. But their chief concern was cerebral edema. Soon, too, there would be the threat of arterial spasms and later, at the end of the second week, the danger of a rebleed. But the worst of it was that her father remained unconscious. He was alive, yes. His EEGs showed some electrical activity. But until he woke up, they couldn't gauge the extent of cell damage, which they could see on the scans, but could not accurately assess.

Kate spent the first two days after the surgery in constant attendance at her father's bedside, talking and reading to him. But the medical team loudly seconded Matt's urging that she "conserve [her] energies" so that she would be "of use to [her] father over the long haul." They warned her that she might have "significant, difficult" decisions ahead of her—while Matt continually harried her to assume her "responsibilities"—meaning, assign him a complete power of attorney to carry on business and provide him with codes her father

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kept in the vault in his house that only she, now, had access to. Kate irritably put him off. But she did, after the first two days, scale back her visits to just an hour or two three times a day.

Joel, Jeff, and Marjorie often sat with her when she visited her father, or sometimes visited him themselves. At Marjorie's suggestion, Kate made an audio tape of her own voice reading to him that she had the staff play when she was absent. ("Who knows," Marjorie said. "The doctors sure as hell don't. Maybe just the sound of your voice—its idiosyncratic pitch and timbre and rhythms—reaches him. If there's only one chance in a thousand that it does, isn't it worth doing?") But much of the time when she visited she found herself getting to her feet and pacing. The sight of him lying so thin and gray, so entangled in tubes and catheters and IVs, surrounded by some of the very electronic equipment he himself had promoted, the thick white bandage on his head stark and sterile, was in intolerable contradiction to the man she knew as her father. His very body had become a stranger to her. It dawned on her that there was only a portion of him that she even knew, or had ever clearly perceived, as himself, the part of him that meaningfully and consistently projected a personality to her. It troubled her that she could match this unknown side of him with the image on the laserdisk more than with anything in her memories. Gradually her consciousness of the fact that he was sick and helpless and unable to appeal to her directly to answer this lack of connection accreted into a lump of guilt lying uneasily at the bottom of her stomach, a literal pain and aggravation that made it almost impossible for her to eat.

This sense of alienation from the man lying in the bed grew worse every time Matt questioned her about the laserdisk. Repeatedly she retrieved it from her fanny-pack and resolved to watch it all the way through, but each time the realization that she would have to deal with his blather about his great contributions to Progress, about miracles and the fate of the human species, and his goddam, manipulative tears at contemplating his own vulnerability, would freeze her intention. And then Kate would inevitably get sidetracked, remembering his lectures to her throughout childhood about autonomy and independence in rational, "full" human beings, his insistence that people who couldn't survive alone were not "full" adult human beings, that only the "psychologically maimed and physically crippled" could not be expected to bear total responsibility for everything that happened to them, and that those who could not should understand that they weren't "full" human beings and should be grateful for what they got, rather than always demanding more. "It's dog-eat-dog, Kate, and don't ever forget it."

Later, of course, she'd argued with him, particularly when he began pointing to his own brother as a prime example. "Every so-called 'full' human being has uncounted others bolstering them up. That's what *privilege* is, Daddy. And interdependence is the reason we have such a thing as social organization, without which we wouldn't have made it as a species at all. The modern world never would have gotten *built* if it weren't for the sweat and blood of all those who were bolstering up your Great Men. *You* know who I mean. Slaves. Immigrant labor. The folks who built the infrastructure 'full' human beings take for granted. And, above all, women, who've always taken care of the most helpless section of the population."

Reviewing this old area of contention made the guilt—and the unspoken anger, which she could share with no one—grow. The awful beeps of the monitor, the faint, high-pitched whine of electronics, the nearly constant presence of a specialist RN wove a nightmare texture of routine. She was a fraud—the

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tragic, concerned daughter to the media; the steadfast daughter to Marjorie; and the loving, patient daughter to the J's. The only "honest" speech she felt she could own was in her head, to her father:

You took me by the hand, Daddy, leading me here, leading me there, showing me this wonder, bestowing on me that. You opened my eyes to beauty and taught me to believe in hope and love. I took all such gifts from your hand without once questioning your generosity, as instinctively accepting them as a fledgling in a nest accepts into its open beak the constant stream of food its parents provide. A gift is a contractual bond, you always said, teaching me about deals-too-good-to-be-true as well as friendship. You lie there now, though so still and somehow empty, claiming compensation at last, for all the years of love rendered with an open hand and seldom-failing grace. And were you thinking, all along, that you were setting me up, to parlay your relatively small stake into a monstrous gusher? You and your games, Daddy. Not once even hinting we were playing this one. If you could speak now, you'd say it's cut and dried, a question of loyalty. Only you would be lying to us both. But then we never shared the same ethics, did we, Daddy? And isn't that a mystery.

But then she didn't share the same morals or ethics with her mother, either. It had been hard after the divorce. She'd chosen to live with her father for the school year and her mother during vacations. It had been bad enough that her mother had resented her choice, but when she'd been born again and remarried—to a very righteous fundamentalist—Kate began to experience school vacations as descents into hell. Her mother had disowned her when the first of the J's had moved in. "You're your father's daughter, and no child of mine," she had said. "God is my witness, I've tried. But now you've gone too far. My other children must know, even if you don't, that this kind of sin is not to be ignored." It had been three years since she'd felt as though she had more than one parent.

On Day 4, staring at her father's face, she thought she saw his eyelids flicker. "Did you see that, Jean?" she asked the RN. "Is he waking up?" Her heart was pounding, her throat painfully tight.

"See what?"

Kate put her hands to her cheeks. The monitors showed no sign of change. Her father's face remained still. "I must have imagined it," she said. And wished as hard as she had ever wished anything that he really *had* been waking up. It was her only way out from the mess he'd foisted on her, his waking up. Either that, or his indisputable death. Which was something, she thought, that didn't bear even thinking about.

What news sharks considered newsworthy was always changing and seldom fathomable. These days anything to do with Lady Godiva was newsworthy, as was anything to do with Mike Abbotson. The two of them, paired, and involved in a "life-and-death" situation, including the one giving the other CPR, constituted a dump of blood in the territorial waters in which the news sharks swam. (Godiva apologized for her publicist's breach of confidence every time she called Kate.) Kate understood this. But she, unlike either her father or Godiva, had always considered news sharks an irrelevance and nothing to do with her. While the precariousness of her father's health had increased her sense of them as irrelevant, it had at the same time stimulated them into such a feeding frenzy that she was scarcely able to draw breath without having to worry about its being noted and interpreted. Her duck out of a side door of the Health Sciences complex on that first afternoon was her only successful evasion of them.

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Kate had no choice but to agree to Matt's putting all her transportation arrangements in the hands of her father's security team. Though they used three cars to play a shell game, because of the number of news sharks involved, their success was limited. The S.A.A. was so swamped with phone calls and news sharks hanging around its doors trying to interview anyone who knew Kate that they were unable to get anything done. And both Jeff and Joel were hounded—in the role of her "love interests," as the news sharks called them (just as they called her home her "love nest," where she scandalously lived with two lovers at once).

In the meantime Matt continually pressed her for a complete power of attorney to oversee the empire. The Executive Group of AID, Inc., had a major decision looming, of whether their Public Defender AI should feature a holographic image, be housed in an anthropomorphized mechanical robot, or reside, simply, in a desktop unit. It was a matter not only of expense (since the cheaper the cost per unit, the more pressure state legislatures would bring to bear on the legal community to agree to the innovation), but of determining which image would make the fairest impression on judges and juries. Her father rubber-stamped the Executive Group's decisions about 82.7 percent of the time; the choice was ultimately his, though, and his signature—and now Kate's, in legal lieu of his—was required for every major decision. Since Kate had no intention of attending the competing project managers' presentations or the Executive Group's decision-making session, Matt was insisting that she sign over at least that authority to him.

To take the heat off S.A.A. and the J's, and to get Matt off her back, she finally agreed to cross to the eastside and drive up to her father's house. She would finish watching the laserdisk and access the vault. And unless her father showed sudden signs of regaining consciousness, she would stay there overnight. Though luxurious, the house had all the security advantages of a military base. At the very least, it would—for a change—give her privacy and quiet.

So at 3:30 A.M., in the dead of night, Kate settled with pillows and sleeping bag into the back of her father's spacious van and managed to slip away without one news shark in pursuit. While the driver and security escort sat in the front seat, chatting about the Sonics, Kate lay comfortably cocooned, brooding. Earlier that night she had made the mistake of watching a CNN "Special Report" on her father; it had so wound her up she hadn't been able to sleep. She was disturbed that they had somehow gotten hold of an old photograph of her father, mother, and herself at age four. (Who could have provided it? Surely her *mother* wouldn't have.) She was disturbed that they had shown exterior shots of University Hospital, with the sound of a cardiac monitor beeping in the background, and the narrator's voice saying that the "fate" of Mike Abbotson was "uncertain at best" and that the fate of his "empire" might well rest in the hands of his daughter, Kate. But most disturbing were the verdicts of the opposing "experts" cited intermittently throughout the piece—of the economist saying that "Mike Abbotson has done more than any human being to accomplish, single-handedly, the elimination of the Labor Problem, and to make the world more efficient than any utopian has ever dreamed possible," and of the sociologist saying that "While the total globalization of the world economy had substantially diminished the rewards of work, increased unemployment, and relegated most of the few middle-class workers remaining into the poverty sector, Mike Abbotson has gone much farther, and has actually destroyed any possibility of humans living off of their labor for very much longer. Machines man-

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ufacture, machines design, machines teach, machines entertain, machines heal, machines do the accounting and auditing, machines communicate, operate transport and provide security. The only professional sectors of significant viability remaining are the legal and political sectors, and it is only a matter of time before the courts will rule that lawyers cannot require human administration of legal services. We have very nearly reached the stage of having only investors and the unemployed. The politicians may serve the investors, but it doesn't take a financial wizard to see that when the unemployed become 85 percent of the population, which—incredible as it may sound—has been predicted to happen within the next decade, there will be such hell to pay that the current epidemic of Spite killing, street demonstrations, and spontaneous mass looting plaguing us now will look like a poison ivy rash in comparison to the metastasized skin cancer we'll soon be facing."

Kate had known all her adult life that there was a serious problem with unemployment and eternally sinking wages and an investment-driven economy. But she had never realized the extent to which people credited her father with having, if not generated, certainly exacerbated this problem. Her father had always claimed that freeing people from dependence on other human beings and from the need to toil must be the first goal of a liberal. "Once we've achieved that freedom," he said, "it will be obvious that the resulting wealth in time and resources can and should be used for exploring the greatness and beauty of the human spirit." "But Daddy," Kate once argued with him. "The people who own everything aren't just going to let the people who *don't* live for free! If they can't work, how will they live?" At which her father teased her for being a "pessimist" with no "faith in human fairness and decency."

But she thought of all those doctors who, like university academics and primary and secondary teachers, had had to go to the Third World for work because the machines that had taken over in the First World were cheaper. Now, though, professors and primary and secondary teachers were too expensive to be supported (at any price) anywhere, since canned, AI-directed distance learning had taken over even in the Third World. Surely that meant that soon doctors would be unwanted anywhere, as well (except, of course, by the very rich, like her father, who could afford human-supplemented care).

The drumming of the rain on the van's roof lulled Kate to sleep. She woke when the security escort slid the side door open. She had been dreaming an ugly confrontation with her mother over her father's mechanically tended body. Something about God's plan and how wicked Kate's loathing for shopping was because it wasn't that she didn't enjoy spending money and acquiring things, but simply that she hated doing anything her mother liked doing.

"No one followed us into the mountain, Ms. Abbotson," the escort reported.

The air was shockingly frigid compared to Seattle's. As Kate climbed out, she saw that snow coated the van's tires, and ice most of its exterior surfaces. She struggled into her parka, then pulled on her gloves and led the way around the various parked vehicles to the garage's inner door. "A house without a front door," she thought of her father saying the first time he'd brought her there. Of course there were doors on the upper levels of the house, but they weren't easily accessible as entrances. She'd thought he was joking when he'd told her he was buying a "small mountain east of Stevens Pass." Even the richest man in the world couldn't simply buy a mountain, could he? But, of course, he could. An article on him in the New York *Times Magazine* had suggested he'd chosen to build his house inside and atop a mountain simply to trump all the previous generation's software billionaires. "Privacy and securi-

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ty," *he'd* said. Now that Kate had some idea of how murderously he was hated, she thought there must be some truth to both explanations. In any case, the environmentally minded said that nothing justified his bulldozing part of a mountain, no matter how kindly he intended to treat the mountain's habitat after he'd finished or how many grants he made to the Nature Conservancy.

Shivering and hugging herself, Kate faced the door, all too aware of her waiting audience. "House, it's Kate," she said.

"Welcome, Kate," said the smooth male voice her father had deliberately modeled on that of Kubrick's Hal. "How are you this morning?"

"Very cold, House," Kate said, "and impatient to get into the warm."

"Your father will be very sorry to have missed you, Kate."

"Yes, House. I've brought two guests with me, Joseph Gleason, who's a security escort, and Jerry Gwynn, who I'm sure you will recognize."

"I sympathize with your eagerness to enter, Kate. But I'm afraid I must request you to sing me a few bars of your special magic song."

Kate *hated* this rigmarole when she was alone, but with an audience it was downright humiliating. *Lighten up, Kate,* she could almost hear her father saying. He had always considered it a moral offense not to appreciate "affectionate" humor, whether one was the butt of it or not. Kate drew a deep, chilly breath and sang, hoarsely, desolately, hurriedly, and off-key. "I'm a little teapot, short and stout; here is my handle, here is my spout. When I get all steamed up, hear me shout: Just tip me over and pour me out."

A burst of canned applause filled the garage, and the door to the little vestibule that held, simply, an elevator access, slid open. Kate entered, glanced at the embarrassed-looking men, and said, "House, we want to take the elevator to the guest level." The doors slid shut and Kate unzipped her parka and pulled off her gloves.

"Service level for me, Ms. Abbotson," Joe Gleason said. Kate flushed. Her father usually put such "guests" on the service level, but though Kate knew the rooms there were perfectly adequate, it embarrassed her to make such a distinction. "My supervisor told me a couple of the rooms there have special accesses to the security monitoring system that aren't in any of the guest rooms, and since I'm here to protect you, I definitely need that access."

"Service level for me, too," Jerry Gwynn said. "I have some personal things in one of the rooms there, since I live here when Mr. Abbotson's in residence."

Worse and worse, Kate thought. She cleared her throat and said, just as the rear door slid opened, "House, forget the guest level. Service level, please." She looked at Jerry and pulled the weary muscles of her face into a smile. The doors slid shut. "You know the arrangements better than I do. I'd appreciate it if you'd show Joe a room he could use and explain about how House works." She looked at Joe. "And of course, if there's anything I can help you with, just tell House. There are speakers and mikes in every room, and if you ask it to, House will patch you through to me."

"Real sci-fi stuff," Joe said, obviously trying hard not to smile. "Which is how my supervisor described it, actually."

Not just his supervisor describes it that way, Kate thought, wondering if he'd been miffed when he'd been told about House's constant surveillance. Most guests *hated* it, even though her father always assured them that House served, rather than spied, and wouldn't divulge their secrets to him or anyone else.

When the door slid open to the private level and Kate stepped out into the cathedral-ceilinged foyer all chrome, cedar, and black and white marble, the fa-

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miliarity of the surroundings and the strangeness of her arriving there in her father's indefinite absence wrapped her in an icy blanket of shock. The cold reality of his absence here in the heart of his empire drove home the extremity of the case far more than did the sight of him lying unconscious and hooked up to a hospital unit. Walking through the immaculate rooms and halls, breathing the perfectly filtered, 68-degree air, Kate felt like an intruder on her father's privacy, as though it were viscerally wrong for her to be making free with his house without his presence or knowledge. He had selected all the furnishings and decor, had designed House's functions and mechanical extensions with the specific goal of eliminating the need for human maintenance. "The one thing a really rich person should be able to buy is privacy pure and simple without having to sacrifice service. Until now, service has been at the cost of privacy. House is the brilliant, elegant answer." But it meant that every item brought into the house had to be identifiable to House and easily manipulable. Which meant that service with privacy came at the price of a certain Spartan starkness.

Which her father claimed represented his aesthetic preference.

Kate left her overnight bag in her rooms and wandered out to the kitchen. Facing its bare black marble counters and white ceramic tile floor, she looked around for the faintest trace her father might have left behind—knowing, as she did so, that House would never tolerate so much as a rinsed-out coffee mug sitting harmlessly in the sink. She recalled an underchef of a caterer her father sometimes employed for dinner parties saying on the CNN Report that the kitchen of the richest man in the world was "super-glitzy, but of little use to anyone interested in actually cooking." And it was true, Kate thought, that the microwave and the freezer were the two most important appliances in it. Lucky thing, she guessed, that he'd figured out how to enable House to clean and pare fruits and vegetables and make all those potassium-rich juices that he was always gulping.

Her eyes spied Cat's empty water and food dishes on the far side of the enormous freezer. She said, "House, where's Cat?"

"Cat isn't here. Your father took Cat with him."

Of course. Before going to L.A. he'd probably taken Cat to the office, to be petted and pampered by his personal staff, who always cared for Cat when he was away. Kate rummaged around in the cabinets for a bottle of water—half-expecting to be questioned by House about what she was looking for—and was relieved when House kept silent.

She retreated to her rooms with the intention of getting a few hours' more sleep. When she entered the sitting room, House greeted her with "Query please, Kate: the object on the sofa." Kate requested medium-low lighting and saw that the "object" was her overnight bag. She told House so and instructed it not to dispose of it or attempt to clean it, then went into the bedroom to the pale orange wicker chest of drawers and pulled out the first pair of sweatpants and sweatshirt she found. "Oh really, Dad," she said as she got a good look at them. The sweatpants were tan printed with pale orange triangles, and the sweatshirt was turquoise with tan stripes at the cuffs and hem. When he'd furnished these rooms, he'd programmed his AI "decorator" to use only Santa Fe colors and styles. When she'd brought a terrarium with a small rock waterfall that helped her sleep and set it on a table in the bedroom, House had warned her and her father had actually *complained* about it not "fitting," and lectured her about how the cacti and bromeliads the AI had tastefully recommended looked "natural" in the setting! So were the sleeping clothes a joke, or an attempt to get *her* to "fit" better in the rooms?

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Impatiently, she threw the clothes aside and rummaged in the drawer for the plain black she favored. Muttering to herself about how his allegiance to his AI programs had gone too far, she suddenly, with a shock, remembered. Cold, stunned, she glanced around the room feeling as though she'd never been there before. Except for the trickle of water cycling over rocks, there was nothing of herself in this room, nothing of her father. It might as well be an upscale hotel room. Shivering, she pulled on the black sweatpants and sweatshirt. She realized she wouldn't be going back to sleep after all. First a latte, she thought, and then the vault.

The lift took Kate down to the vault that was, according to House, below the utility level. "There's no button on the manual panel," Kate said to House. "Does that mean that if you crash while I'm down there I'll be trapped?"

"The vault has a clearly marked emergency exit," House said. "While the vault can be exited without my assistance, it cannot be accessed manually, even by Mike himself."

The rear door opened on a short fluorescent-lit corridor. "Just like in the mad-scientist movies," Kate muttered.

"I didn't process that, Kate," House said.

"Now where do I go?"

"To your right and around the corner, Kate, is Mike's Top Secret Office. To the left you'll find a rest-room, bedroom, and small kitchen."

Kate walked the short distance to the end of the corridor. To her left, a heavy metal door slowly opened. "House. Is this place supposed to be bombproof?"

"The vault has been constructed to be impervious to not only an EMP, but also percussive explosives to 25 kilotons. It has its own air supply and ventilation system, as well as a year's supply of water and food for five persons."

"Five persons, hunh," Kate said, still hesitating at the threshold. "Can we guess who those five persons might be? Somewhere in this Top Secret Office maybe there's a Secret Decoder ring that can give us the answers."

House ignored that. Kate drew a deep breath and went in. Discreet halogen lighting. Enormous brilliant Persian carpets on a lustrous parquet floor, complemented by woven tapestries covering every inch of the walls. A pair of red leather couches and matching recliners flanked by brass halogen reading lamps. An enormous media center. And at the end of the room, a massive mahogany desk. Kate was flabbergasted. Her father *never* went in for this style of décor. Stark, functional monochrome was his thing. And he almost never sat at a desk. Desks were bad for one's back, he always said. Only grunge workers, tied to keyboarded monitors, needed to suffer that torment.

"All right, House," Kate said as she approached the desk. "What is it I'm supposed to do now?"

"Hey, Kate, you there?" her father's voice said as she sat down in the leather, high-backed swivel desk chair. "So whaddaya think, kid, of my *den?*" The voice cracked up in giggles. "From my AI designer? *Not!* Fact: I've pretty much duplicated—except for the halogen lamps, that is—a real VIP bomb-shelter. Your assignment, kid, is to give me three good guesses as to whose."

Kate slammed her fist onto the desk top with such force that her eyes smarted with the pain. "Goddam it, Daddy, I'm not playing your stupid, so-called *fun* games. And *no,* I'm not pretending I can talk to you, when every nerve in my body tells me you're lying unconscious in that fucking stroke unit." Kate glared at the emptiness surrounding her. House's voice, much less her father's, didn't make a damned bit of difference. She was sequestered in a lifeless place, alone.

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And if he thought—or rather *had* thought, when he made the program—that she was going to play his silly games, he had another thing coming.

"Ready for guess number one, Kate? And remember, it has to be an *intelligent* guess."

"House," Kate said hoarsely, "get me the right program. My father's had a stroke. There are things he wants me to know, documents he wants me to have possession of. Help me bypass his guessing game."

House said, "I cannot bypass the protocol in progress, Kate."

"Guess number one is wrong, Kate. Try again."

"Pablo Picasso," Kate said sarcastically.

"Guess number two is wrong, Kate. Third try's the charm!"

"Gertrude Stein," Kate said indifferently.

"Wrong again! Kate, I bet you didn't even try. Where's your sense of *fun?* Someday you'll realize that your mother did you no favors teaching you contempt for fun, always encouraging you to take yourself too seriously."

"Got me right where you want me, hey, Dad?" Kate said angrily over the voice's continued speech. "A captive audience that has to feel guilty for every twinge of irritation. *Fun,* right. And I suppose you have it written in your will that everyone has to play silly children's party games at your graveside, instead of hearing the usual crap about life passing?"

"So, Kate, what can I do for you?" her father's voice said, the cue, she thought, for selecting the proper branch of the program's tree. "If I'm dead, and you're taking over, say 'One.' If I'm unconscious with brain damage, say 'Two.' "

Despite her dread for what was coming, Kate felt relief that he'd dropped his inane bullshit. She swallowed and said, "Two."

"Having selected Option Two, Kate, it's likely I've either had a stroke or been in an accident. As you know, because of my genetic predisposition to stroke, I've been doing a lot of research into the subject. Of all conditions that could befall me, stroke is among the worst, because while it's trivial to regenerate ordinary tissue, neural tissue is special, in that its exact structure of connections and patterns holds the key to memory and individual identity. If I'm lucky, I'll escape with enough of who I am to be able to achieve some kind of personal continuity. But that's probably something that can't be determined before the replacement tissue is generated. As I'm sure you probably know, given the special character of neural cells, new tissue can only be generated by using fetal stem cells as starter cells. I've had a series of short videos made up for you, explaining how it works. But for now, it's enough for me to assure you that there's a good success rate in transplanting neuroepithelial cells to damaged brain sites where they can integrate with the existing, healthy cells and differentiate into the appropriate types of neurons and glia as needed. The neurology docs have probably already explained this procedure to you, so my wanting you to arrange to have it done will come as no surprise. But Kate, there's another aspect of this that those docs won't have told you about. The standard procedure would be to wait until matching fetal tissue becomes available, and use that. When I first thought about all of this a few years back, I came to loathe the idea of such important cells coming from just anywhere. It's true that the way in which the cells would be integrated and differentiated would follow my own genetic mapping. I've heard plenty of arguments to the effect that the imported tissue should be regarded as neutral, empty matter utterly pliant to the form its host gives it. But the fact is, the scientists simply do not *know*. And given the *uniqueness* of the brain responsible for

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most of the Progress of our day . . . well. I don't want to risk it. My first thought was to ask you to have an embryo made with my sperm. But the more I read and questioned scientists about the matter, the more uneasy I became with the idea of using a foreign ovum, contributing its own genetic material, particularly given that most of the genetic material governing the executive brain functions is taken from the maternal chromosomes."

"Oh god, Dad, no," Kate said. "Don't tell me you want *me* to get pregnant with . . ." Kate did not finish the thought. It was absolutely unthinkable.

Her father's voice did not take account of her interpolation. ". . . back in the nineties. These guys, Surani and Keverne, made patchwork mouse embryos they called chimera, enabling them to force the selection of paternal genes for brain cells. The result was super-stupid mice with enormous heads perched on tiny bodies. The executive brain was underdeveloped, while the limbic system, or hind brain, dominated. In short, they found the first evidence that paternal genes contribute most to the primitive parts of the brain, and maternal genes to the cortex and striatum. Later research by them and others gradually confirmed that this was true not only for mice, but for most mammals—including humans." Kate listened to her father draw a deep breath. "Honey, you can imagine how this blew me away. Maybe you remember my talking to you about this? It was the second time you came to visit here, around the time I was having the guest level decorated. Well of course, what it means is that all my genius comes from my mother's genetic contribution. But it also means that I can't pass it on to a naturally produced child! *You* got *your* higher brain functions from your mother, I'm sorry, so very, very sorry to say. As would any other child of mine, were I to decide to have one. So. To make a long story short, I hired a couple of research teams to work secretly—and separately—in competition—on finding a way to clone me using only my own tissue. You know, using an ovum as an envelope for containing my genetic tissue, but not recombining my chromosomes with the ovum's. Well of course it had to be secret, since all official institutions persist in refusing to lift the global ban on human cloning that followed the Porta scandal. One would think the cloning would be easy to do, considering the routineness of animal cloning. But the fact of the ban, and the tightness of research funding these days, has meant that the teams I hired had to start from scratch. And of course since they're using my rather aged DNA, they have to deal with a certain number of transcription errors. Interestingly, they each took a different approach. I have a number of video abstracts for you to view. I think Team B is probably going to be the best bet, since it's not long-term viability of the fetus we're interested in, but simply generating neuroepithelial cells. Since you're listening to me tell you all this, it means that their competitive research is still in progress, and that I haven't declared either team a winner. Which means, in turn, that you, Kate, will have to decide which team is to make the embryo from which the stem cells are to be taken. The winning team will not only have its research implemented—and tested on me, personally—but will also be awarded a cool five mill that I have sitting in an escrow account in Seattle Pacific International Trust and Investment."

Another deep breath. "Okay, Kate. I suggest you take a break now and then come back in a while and ask House for the videos on stem cells and cloning. Later, after you've seen them, I'll tell you where to find the codes Matt is probably hounding you for."

Kate slumped down in the chair. Her body was so rigidly tense she was shaking.

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* * *

Contrary to her father's recorded advice, Kate did not take a break. She watched and listened to and read every video and electronic document House provided. It was mid afternoon by the time she'd finished, waking from a daze of engulfment into a sudden sharp awareness of hunger, thirst, and aching muscles. Kate instructed House to prepare a disk with all the codes that were solely in her father's possession, then took the lift up to the private level. Though she knew House was fully capable of heating up any number of a variety of frozen dinners, she rummaged in the freezer herself. "Have I had any telephone calls?" she asked as she removed the foil wrapping from a curried eggplant and rice dinner.

Matt, Marjorie, Jeff, and Joel had all called. No surprise. But Matt had called four times with increasing urgency. Since Kate had told House to interrupt her only for a call from one of the docs, she was sure Matt's urgency involved either business or PR, neither of which struck her as of any importance. Instead of returning the calls, she spoke—via House—to the driver and told him she wanted to leave for Seattle at around three A.M.

After she ate the curry dinner she lay down in her room to take a nap. The Madrona Bitter she'd drunk with the food should have knocked her out, but it didn't. Though she managed to block all thoughts about having to deal with the two competing research teams, other thoughts broke the surface of her mind, dragging with them a host of memories. She recalled that visit her father had mentioned, the occasion on which he said he'd told her about the "executive" functions of the brain being transmitted only through maternal genes. She didn't remember him explicitly talking about that, but she did remember that it was during that visit that he'd announced he would stop bugging her about getting involved in the business—and be conferring a billion-dollar trust fund on her that would grant her financial independence. *I have no choice but to accept that you not only aren't, but can't be, a chip off the old block,* he'd said. *I can see some of me in you, but you're definitely your mother's daughter, and there's no getting around it.* At the time, the words had hurt because she knew that he loathed her mother and could only consider being like her a terrible shortcoming. But she'd been thrown off by his magnificent gesture and had thought that that was only his way of expressing his lingering disappointment that she would never play the role of crown prince of his empire, disappointment that had finally been tempered by acceptance. *He* had taught her to ignore "the negative." He had taught her to see the positive wherever it showed up. So she *had* seen the positive, she had clutched the positive to her as proof that he accepted—and loved—the person she had grown up to be, even if she wasn't exactly what he'd been hoping for. And she took every subsequent mention of her resemblance to her mother as rhetorical teasing. Only now did she understand. She had always thought of herself as her father's (though not her mother's) Good Daughter. Now she knew she might not even have rated as the Good-enough Daughter.

All the time he'd been plotting to clone himself. Had he been intending at some later time to raise a clone to maturity, to be his heir? It wasn't unthinkable. The clone would have had *his* brains, would have been everything he wanted in his offspring. The clone would have been everything that *she*—having inherited her mother's "executive" brain functions—was not. Lying there, belching beer and curry, Kate grew utterly sick to her stomach. It was all too, too clear. He had loved her as any dutiful father would, but as one stuck with a bad bargain. And so he'd arranged to use her, second-rate but faithful off-

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spring, to make everything come out *right*—as she, in herself, was not, and could never, genetically, be.

As the van was crossing the Evergreen Point Floating Bridge, Kate sat up and called out to the driver, "Take the Montlake Exit, Jerry. It's about a quarter of a mile to the hospital. I want to go straight there."

She hadn't been able to sleep. What she wanted was to confront her father, to question him, to argue with him, to yell at him. To let him know how much he'd hurt her—if such a revelation could ever be made between them, which it couldn't, given all their unspoken—unspeakable—rules. Telling him he'd hurt her would be tantamount, in his eyes, to a confession of self-pity. That was how they were, father and daughter. What she needed was reassurance. Or to be let off the hook. Or to be understood. From or by him alone.

She could not imagine ever telling anyone else the things lying between them.

After checking her ID, the stroke unit's single graveyard human, who did not know her, allowed her into her father's room. Her father's nurse rose to his feet at her entrance. If he was surprised at the hour of her visit, he didn't show it, but simply said, when she requested she be left alone with her father, that he'd be in the cafeteria getting a latte and would return when she had him beeped.

Everything looked the same since her last visit. To all superficial appearances he might be frozen in time. What could not be seen, though, was what was going on in his brain. Bledsoe talked about waiting before launching into a regeneration project. But she knew, now, that her father had intended her to get the cloning project started right away—in order to be able to provide Bledsoe with stem cells when he decided they were necessary.

Necessary. Kate felt as though *she* were frozen in time—caught in a world like Alice's, a world in which it was impossible to make sense of "facts" and expressions of desire. *Whatever* cells they used—a stranger's or a clone's—her father would likely no longer be the person he'd been. The literature he'd had summarized for her had described only small-scale regeneration projects, in which the cell damage had not caused unconsciousness, but only very specific sorts of neurological "deficits." None of the cases involving unconscious patients resulted in a persistence of any memory whatsoever following successful cell regeneration. Wasn't memory the very core particularity of who a person was? She might be persuaded to believe that the new cells—especially if they were taken from a clone—might duplicate quirks of her father's personality, or even the full bloom of his acclaimed genius. But his *consciousness*, surely that wouldn't be the same? And would he not be like a child, emotionally, without the experience of a man's life?

Kate bent close to his ear. "You say I owe this to you, Dad," she said, her voice almost a whisper. "You say I owe it to you to keep your genius going. You gave me life, and now I should reciprocate by giving you a new life that would be a truer immortality than that of having a son. But you never asked me face-to-face, Dad. You never gave me a chance to decide whether I wanted to be the one charged with the responsibility. Dad, the whole thing makes me sick. All those embryos you've had those teams experiment with. All those chimeric clones that were too grotesque to be allowed to grow. I don't want anything to do with this scheme, Dad. It won't get me you back, unless it's only a few cells that need regeneration, in which case Bledsoe can get them legally, without burdening some woman with the need to plug into some other woman's uterus and carry the fetus around in a titanium carapace until it's

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ready to be harvested for its brain tissue. Oh, she'd be well-paid, I know. Better paid than any surrogate has ever been. But don't you see, the fact that you can buy such services doesn't mean it's morally *right*. Women like that can't afford to have children of their own. The economic state of affairs accounts for the availability of such services. A state of affairs *you've* helped to create, however much you disavow the consequences of your genius."

Genius. The word was bitter in her mouth. It was a word she'd been hearing all her life. First from her mother—admiring, then sour, then finally sarcastic. From him. And from the world, either sycophantic or hating. Presidents always liked to make some kind of reference to her father in their speeches—as a mark of hope, as a symbol of all that was brightest and best in twenty-first-century America. Sociologists always cited him as the fount of all the changes that had destroyed the traditional fabric of postindustrial society. Most people, she thought, would agree that such *genius* must be kept going, whatever the moral cost—and regardless of whether the person named Mike Abbotson became another individual entirely. The world *needed* him more than ever—or so the New York *Times* editorial had claimed two days after his stroke. It needed his genius to see the world through to the new era, to ensure that the *promise* of his achievements was not allowed to be swept away by the greed, indifference, and lack of imagination now exploiting them.

"Tell me, Dad," Kate said, ignoring tubes and cables to lay her cheek next to his. "Do you have some grand plan to make it all work? You've always gassed about the *promise* of a society free from the obligation to labor, a society free from the necessity to toil. But when you achieved the dirt cheap, truly universal medical system, when you eliminated the need for teachers in educational systems, when you automated every aspect of farming, did making these things cheap benefit *anyone* but people like *yourself*? The fact is, Dad, that it's all just capitalist bullshit, isn't it? And so tell me, just what kind of genius is *that*? A genius that's worth being kept going at any price? A genius the world can't live without? Sorry, Dad. I don't buy it, I just don't buy it at all." His cheek was warm and living against hers. But she couldn't sense *him* there, listening behind the lax mask of his face. She sat up and dug a tissue out of her pocket to blow her nose and wipe her eyes. "It's *you* I love, Dad, not your genius. There's a difference, you know. There's a big, big difference. To me, anyway." And the thought of seeing her father turned into a stranger with whom she could have nothing but a genetic relation in common made her bowels writhe.

And yet to him, apparently, *genetic* relations were *everything*. Morality and ethics—and *love*—had no place in his vision. Though she did not share her mother's, she did have values. Humans, her father always said, by definition could not betray their humanity. Anything they did was "human." And anybody who denied that making war, killing, and even genocide were human was kidding himself. Oh, how they had argued, he and she, father and daughter. And now, feeling the warmth of his cheek against hers, she suddenly heard a voice in her mind—the voice that had spoken to her in the vault, the voice of the image on the laserdisk, a voice she could not imagine coming out of the lips now bereft of even the softest whisper—a voice only slyly resembling his: accusing her of sour grapes. *You think I should be satisfied with things as they are, satisfied to have a daughter as loving as you've been. But your even thinking such a thing proves you are lacking, proves that you're simply piqued by my wanting the immortality my genius deserves. You're just proving your own weakness here, kid.*

Hot tears overflowed Kate's eyes, pooling wet and salty between his face and hers. "You're wrong, Daddy," she said brokenly into his ear. "Deep inside,

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I *know* you are! Why do you always have to ridicule people for acting on moral bases? You're asking me to coldly exploit life itself—and individual lives—for a cold, instrumental end that is speculative, at best. I'd gladly raise any child you left behind, I'd lavish on it all the love for you I have. But to merely reproduce an executive organization of your brain? My god, Daddy! It appalls me that you don't even love your own, unique self, the person you are and the relationships that make you who you are, enough to value it more than you value the executive organization of your brain! Stop trying to hold me hostage to my love for you! Because I'm not, I promise you, *not* going to do something that's so obviously, terribly *wrong!*"

Kate sat up and wiped her face and blew her nose. For the first time in her life she wished she had religion, wished she had it as powerfully as her mother did. The oughts of the situation would be clear then, and the decision not hers to make. She stared through her still-flowing tears at her father's face. *He* would say she had no decision to make, that he had already made the decision himself, while her mother would say that no decent person could be party to his monstrous selfishness. But Kate felt guilty, treacherous. Whatever she did would be wrong in *somebody's* eyes. "Come on, Daddy, wake up, please," she cried at his stillness. "I don't want to lose you!" For the bottom line was, if he didn't return to consciousness, she would lose him whatever choice she made.

Kate grew obsessive about sitting with her father, to the point that she arranged to be assigned a room to sleep in so that she would not have to leave the hospital to go home. Most of his care was done by machines, but she asked his nurses to teach her how to help exercise and massage his muscles. "Daddy, I'm here," she said to him every few minutes. She was annoyed and embarrassed when she learned that the media were making a Major Production over her staying in the hospital around the clock. **Kate Desperate and Distraught** one tabloid proclaimed on its front page. **Lady Godiva Out in the Cold** claimed another, suggesting a link between Kate's moving into the hospital and Godiva's "exile." Godiva told Kate over the phone that the main reason she hadn't visited was the media's interest. Sitting beside her father, thinking about his brief relationship with Godiva, Kate fantasized their having married before her father's stroke, and his having left all the regeneration arrangements to *her*. What would Lady have done in such a situation? Surely anyone with a personal rather than a business relation with her father would hesitate to put a stranger in his place. Imagine marrying one person and finding oneself in bed with quite another, someone like a regressed-to-childhood adult. Divorce must be the certain outcome of such a scenario. The stranger wouldn't have his predecessor's feelings for the spouse, and the spouse would probably feel grief and anger at the loss of the predecessor's love and full selfhood.

Daughters, of course, could not divorce their fathers, even when they became strangers. She would probably have become his mother, or his older sister, or governess. He'd remember nothing of their having hiked together for years, of her having shoveled snow with him when she was eight, or of the more than twenty birthdays' worth of ties she'd given him over the years, still hanging in his closet though never once worn since he never wore those kind of ties just as he never wore suits.

"This is where I belong," she said whenever anyone tried to get her to leave the hospital for a "breath of air" or a "change of scene." Jeff and Joel believed that her visit to her father's house had brought home the reality of the situation to her, and that her attendance on her father was an attempt to deny it.

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Each of them suggested this in his own way, as though putting it into words would give her permission to "let go." "He could still return to consciousness," was her reply. "The doctors haven't given up hope. I know they haven't, or they would have started pushing for regeneration of damaged cells." "But they also say there's been substantial damage to the cerebral cortex," they said, as though she had forgotten it. "The fact that he survived surgery means there's a chance," she said, clinging to what Bentoit had said before the operation.

Marjorie guessed there was something more than denial involved. "You're clinging to a slim possibility," she said as they were waiting for the elevator to take them to the Staff Lounge (where they could have coffee with a lowered risk of encountering news sharks). "I can understand that. But your desperation—" She put her arm around Kate's shoulder and drew her close. "That's new. Since your trip into the mountains, in fact. I know you, Kate. And I know a few things about your relationship with your father. It's like he's booby-trapped you, kid. I don't know how, I don't know why. But I'd say that something in his house really got to you."

For a brief moment Kate was tempted to throw herself into Marjorie's embrace and unload everything. Marjorie wouldn't judge her. Marjorie would understand. Marjorie would probably even have a strong opinion, which she'd give, about what the right thing to do was. But Marjorie would also pity her, would realize her father's disillusionment in her, would discover this ugly weakness. She could more easily tell the J's—to whom she'd never once seriously criticized her father—than Marjorie. Marjorie would understand the hurt as no one else could. And the hurt, then, would become more real, once it was spoken aloud. Bad enough that *she* knew what he had thought of her.

And so as they stepped into the elevator Kate said only that she had given Matt all her father's codes because she was tired of his pressuring her to attend an important board meeting and make decisions in her father's name. "Let him be responsible for the business when my father wakes up. I know I can't be." The elevator stopped to pick up somebody in a robot-driven wheelchair, and the moment for confession was past. Kate talked instead about how, living in the hospital, the world had shrunk and how that made her feel like a gigantic Alice who had lost her perspective.

"Which is why you need to get out for a few hours," Marjorie said.

Kate said, "A latte will fix me up." And then asked Marjorie about her latest hypertext project (for a client that was, incidentally, an Abbotson subsidiary corporation).

Three days after visiting her father's house, Kate got a call from a man identifying himself as David Hanson. She at first took him for a news shark who had gotten hold of her personal number. But when he said that her father had told him that it would be she who must authorize the final execution of the cloning project, she remembered his name. He was the scientist in charge of Team B. When she asked how she could help him, he said, "Your father said to me that if a clone were needed for its neural stem cells, you would be authorizing one of the teams to make the clone for that purpose, thus determining the winner of the competition."

"You are premature, Mr. Hanson," Kate said coldly. "It is possible my father may recover consciousness at any time."

"But I understand there has been considerable cell damage," Hanson said.

Kate's jaw went rigid. "Oh? You think your source of information is better than mine?"

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There was a pause. "I assume my source of information is the same as yours."

Kate glanced at her father's slack, unconscious face. A spooky frisson rippled in chills over her skin. It would have been simple enough for him to write a subroutine instructing House to call the team leaders a given amount of time after dumping all that data on her. And it would have been simple to include in such instructions a call to Matt Hull, asking him to update the team leaders with hard medical data. Her grip on the phone tightened. "Mr. Hanson, I will be in touch with you when I'm ready to discuss this. I advise you not call me unsolicited. Your position is tenuous, to say the least." His ethical—*legal*—position. The statutes the cloning teams had been violating were federal. She had only to turn the records House had stored somewhere over to the FBI to entangle him in enough trouble to ruin his life for decades to come, even if he never faced a federal felony charge and conviction.

Of course if she turned them in, her father would then be tarred with the same brush. That was the researchers' main protection, as it had always been.

After she slipped the phone back into her pocket, she stood up and told the nurse she was going out for a latte. She was shaking with tension; she could even feel a tremor distorting her upper lip. The nurse pretended not to notice. Lingering at the foot of the bed, staring at her father, Kate silently addressed him. *What else have you got rigged up to force an unwilling hand?* Knowing her father, it could be more videos, a visit from a confidant she knew nothing about, or some concrete bribe or threat as incentive. Before the call she'd been merely guilty and anxious. Now she was filled with dread. She suddenly knew what Hamlet must have felt like, haunted by the ghost of his father.

The thought should have made her giggle, but she shivered, spooked to her soul by the possibilities.

After the phone call from David Hanson, Kate, already fairly zoned out, moved into a state of near-sleeplessness. When Joel, Jeff, and Marjorie each individually commented with concern on her "edginess" and her marked alarm whenever she got a phone call, she excused herself as being sleep-deprived. The places her mind went whenever she lay in the sleepless dark were so terrible that she began to think longingly of going home to sleep, spooned against a comforting body (Jeff's was softer and therefore more comfortable, but he snored, as Joel never did, so she didn't exactly fantasize any particular one). She *couldn't* go home, though. Something stopped her every time she started getting serious thoughts about doing so. She knew she had to stay in the hospital, near her father. She wasn't sure why, except that she believed something terrible would happen if she didn't. And above all, she had to be instantly there if he woke. She needed him to know that she really cared about him, even if she couldn't execute his cloning plan. Since her visit to his house she'd had a recurring dream in which he woke when she was off somewhere, stranded in a cold, mountainous desert without a vehicle or phone or any means of travel but her feet, and less than a liter of water and no food or a tent.

Finally Jeff brought her some melatonin and said he'd sit quietly beside her in the room she had been given to sleep in. "What, and watch me not sleep?" she asked him. "Who knows? Maybe my being there will help you sleep," he said lightly. When she neither answered nor smiled, he took her hand and said slowly, soberly, "I wish I understood what was going on. Oh, not your need to be in the hospital all the time. But there's something else, I'm sure. Isn't there anyone you trust enough to talk to about it?"

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His lushly fringed eyes gave her a slow blink. She saw him from a distance—maybe, she thought, as other people saw him: his jeans and button-down shirt, his curly black beard and thick-lensed horn-rimmed glasses, his Casio watch. He looked more like a philosopher than a cell biologist, she thought. Her father had said, after Jeff had joined her and Joel, that all she needed now was an "artiste" and an investment banker to represent a reasonable spectrum of American Manhood in her "harem."

"I'm all right," she said, squeezing his hand. "Really, I am." But she took him up on his offer to stay with her that night. She popped the melatonin tab and then invited Jeff to lie on top of the covers to cuddle her. One thing, not surprisingly, led to another, and before they knew it they were screwing. Though the melatonin conveniently kicked in after she'd had a couple of orgasms, she woke an hour and a half later and was unable to go back to sleep. Her thoughts were as bad as ever, but pressed up against Jeff's back, listening to him snore, she felt less lost, less alone. She realized, however, that she didn't want to know Jeff's—or anyone else's—opinion of the right thing to do. Whatever that was, it was irrelevant to her actual decision, and even if it offered her agreement, would not be in the least bit comforting.

Kate had known all along that she was waiting rather than stalling or procrastinating. She thought she was waiting for her father to regain consciousness. What she got on the twelfth day after her father's stroke, though, was a definitive crisis that put an end to the possibility of such waiting.

The day started with a private conference with Lee Park. After getting her and himself coffee, Park sat down behind his desk, planted his elbows on its surface, and steepled his long, slender fingers a few inches from his mouth. He asked solicitously after her accommodations in the hospital, then said, "It is my unpleasant responsibility to brief you on your father's options at this point." He cleared his throat. "We have, frankly, been waiting for the equivalent of a miracle, Ms. Abbotson. All of the scans we've done have suggested that your father has sustained considerable cell damage. As I'm sure you know, neural tissue simply does not repair itself. A small degree of cell loss can sometimes be overcome by the forging of new neuronal pathways. But the damage to your father's brain is extensive."

Kate grew very, very cold. "You're saying—what? That he is not coming out of this coma? Is that what you're saying?" *And that you've known that all along.*

Park's lava-hard eyes met hers. "Not without a program of cell regeneration." Park broke his steeple to lift his coffee mug to his lips. "Let me be frank," he said after he drank. "For Dr. Bledsoe to carry out the procedure, he will need neuroepithelial stem cells. These can be found only in fetuses. Cells taken from fully developed bodies are not as adaptable or resilient as fetal tissue, which has a marvelous capacity for differentiating according to the needs of the host organ. Now while the law permits individuals to conceive children for the sole purpose of cannibalizing their organs after birth when the removal of such organs isn't fatal, it does not permit individuals to expressly grow fetal tissue for its instrumental use. Therefore by law we are required to wait upon the happenstance of a miscarriage or abortion. Since these are both rare in the second trimester, the wait can be lengthy."

While he had been speaking, Kate had wrapped her arms around her body. Her shivering was so violent that she had to make a great effort to keep her teeth from chattering. The pieces of the puzzle now fell neatly and harshly into place, and she saw the whole ugly picture. Her lips quivering with tension, she

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held up her hand and said, "There's no point in continuing this discussion. I have no intention of trying to regenerate my father's lost brain cells. You've just told me that the loss has been massive. What that says to me is that the person my father was is dead. Generating new brain cells won't bring him back. It would only give me a stranger in his place. Which sounds like a damned ghoulish thing to do, animating his body with a brand new cerebral cortex."

Park stared at her as though he couldn't believe he had heard correctly. "Ms. Abbotson!" Nervously he fumbled with the knot in his tie. "Really, you must—I mean, of course it's only natural that you're shocked by my explaining your father's situation. Wrongly, this medical team has assumed you understood it all along. But . . . I'm sure, on reflection, you will see that you must carry out your father's wishes. You see, Ms. Abbotson, our agreeing to his provisional plans for using cloned fetal tissue was one of the conditions of his continuing, generous support of all the department's research projects. I have on more than one occasion given him my *word* that if worst came to worst, I would do everything in my power to see to it that his genius continues. And that requires that the regeneration be done, in order to give a second clone time to mature into adulthood. Both teams A and B have begun work on the clones. A gestational surrogate has been approached. All that is required is your go-ahead."

Every drop of saliva in Kate's mouth and throat evaporated. She tried to speak, but managed only a hoarse whisper. "You're in on this insane conspiracy, too?"

Park spoke through suddenly tight lips. "Matt Hull assured me your father had arranged to explain everything to you in the greatest detail. Ms. Abbotson, I think it best that he explain it all to you himself. For there really is no choice in this matter. Legally, you are obliged to follow his living trust. And morally—"

Kate interrupted. "And morally, you are—" but halted when a loud fast beeping filled the office.

Park swiveled to face the monitor on the table behind his chair and clicked on a flashing icon. Text and numbers filled the screen. Park sprang to his feet. "Your father's started a rebleed, Ms. Abbotson. We'll have to discuss this another time."

The dread rebleed! Kate followed Park out of his office and the neurosciences department into the corridors of the hospital proper. Her heart raced with panic. Only when they entered the Stroke Unit did she realize that a rebleed couldn't do any more harm to him than he had already sustained. Her father was *gone*. The body this man was rushing to attend was a collection of organs that would never again be her father's.

It would be best, she thought, if the rebleed caused him to flatline. Turning in her tracks, she left the conspirators to their emergency and went to pack.

Only moments after Kate arranged her getaway with her driver and security, Penny Eliot phoned her with a request to attend an emergency conference of her father's medical team. Determined to put an end to the charade, Kate agreed to the request. Though she had no illusions about any of the docs on the team, she hoped the strength of her position would be clear enough to carry her point.

Lee Park sat at the head of the table, but it was Eliot who summarized the situation, presumably because Park knew he had lost Kate's good opinion. As a result of the rebleed, Eliot said, electrical activity in her father's brain was minimal. The team—which now included Joshua Bledsoe—advised a second round of surgery in order to maintain whatever healthy tissue there might still be.

Kate interrupted the recital of technical details. "It's always been my under-

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standing that the central nervous system drives all the vital functions of the body. If the full complement of life-support equipment maintaining my father were removed, would his heart and lungs, for instance, continue to function?"

Eliot bit her lip. Kate could see from the evasion in her face that she hated the question. "No, Kate," she finally said, "they wouldn't."

Which meant, Kate recalled from the summaries her father had provided her, that it was doubtful that all the damaged tissue *could* be regenerated. Kate looked Eliot squarely in the eye. "Then unhook the body. You know, and I know, that his brain is dead. There's no point in continuing this charade."

"You're upset," Eliot said softly. "If this were any other case, I would do as you ask if it hadn't been done already. But in this case, it would be wrong. Your father's instructions to me—and to Lee Park and Joshua Bledsoe, as well—were explicitly clear."

Kate swept her a look of contempt. "My *father* is dead. And the only legitimate reason for keeping the shell of his body even nominally working would be an intention to use his organs for transplant. But that's not the case here. *Your* reason—" and here she indicated all of the doctors sitting at the table—"is to carry out a procedure you and I know doesn't at this stage have a hope of working. A procedure that I would, in any case, have opposed, since it would not have prolonged my father's life, but at best produced a bizarre amalgamation of an infant's personality with a middle-aged man's body."

A long silence settled into the room, a virtual paralysis of time, in which the doctors all stared down at their hands. Kate slammed her fist on the table. "Dr. Park," she said harshly. "Give me the odds on whether all the most necessary cells in my father's brain are able to be regenerated."

He stared at her. "You would have to ask Dr. Bledsoe that," he said, glancing sidelong at his colleague.

"Dr. Bentoit!" Kate said. *His* look at her was openly hostile. "What are the chances that my father will regain consciousness if you operate on him a second time?"

Bentoit looked at Park, who after a few seconds gave an almost imperceptible shrug, then looked back at Kate. Dryly, softly, he said, "Without massive cell regeneration, the patient will assuredly not regain consciousness."

Kate looked at Eliot. "Then the only thing we have to discuss is the removal of the life-support equipment."

Park cleared his throat. "It seems we're at a stalemate, then. The regeneration project cannot go forward without your consent to surgery and the other necessary procedures. Perhaps I should mention that Mr. Hull is prepared to go to court to see to it that Mr. Abbotson's living trust is honored." He looked coldly at Kate. "Given your opposition, it seems this will be necessary."

Kate rested her hands on the table and folded them tightly together. "I realize that in pursuing my father's scheme you all feel you're fighting for your professional existence. But I wonder if you really want to be exposed in such a dubious undertaking? You *may* not be implicated by my father's documents in your connection with the cloning project, but I'm sure the FBI will consider the inferential evidence of your involvement sufficient for mounting a thorough investigation. Even if a judge agrees to allow your chicanery with my father's body, when the scheme fails—as you all clearly know it will, and under the glare of the media's brightest spotlight—the federal investigation of the human cloning conspiracy will be all the more likely to go after you." She looked at each of them in turn. "I suggest that you think about what you're doing, rather than adhere blindly to the previously determined plan. The fact of

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my opposition and my ability to blow this thing wide open, and above all the fact that the rebleed absolutely negates the ultimate feasibility of the regeneration project, should surely bring each of you to reconsider your position—your *legal* if not *ethical* position."

Eliot rose to her feet. "You're right, Kate. I was adhering to a promise. But the rebleed, as you say, changes everything. If you'll sign the release form, I'll disconnect the life-support at once."

Penny Eliot, Kate thought, had the least to lose. The neuroscience docs, though, had the existence of their entire department at stake (never apparently having considered that she might have chosen to continue their funding).

Lee Park covered his eyes with his hand. "Divide and conquer," he said. "Which is what, Ms. Abbotson, your father did to the medical profession as a whole."

And if it weren't for that, this situation would never have arisen. Kate said, "Yes, Dr. Park, I know." Her father's illness had been an education. She no longer thought it so impossible to believe that a doctor somewhere had taken a contract out on her father's life.

"It would have made an interesting court case," Bledsoe said as Kate and Penny walked to the door.

Kate turned and stared at him. "Interesting?" she said incredulously.

His smile was sharp and thin and slightly malicious. "To see whether the courts decided that a body and its DNA, minus its original personality, has a continuous, legal reality. My guess is that they would have ruled that it does."

"Let's go," Kate said to Eliot, afraid the latter might start having second thoughts. She was glad she'd had that cloning evidence with which to threaten them. It would probably have gone the other way if she hadn't.

Kate stood with her back to the bed as Eliot and the nurse disconnected the life-support equipment. She tried to think calmly about her father, about all that they had shared, but thoughts of what the success of his plans would have meant for her intruded, overwhelming her with hurt and regret. She had disappointed him, in both his life and his death. She had failed his genius, which somehow, it seemed, had become all that mattered to him. Genius was something she did not understand, and it hadn't been what she loved in him. On the contrary.

When Kate heard the heart monitor shift from a steady beep to an uninterrupted flat tone that abruptly ceased, she faced the bed. At Kate's request, the doctor and nurse left the room. Kate went to the bed, leaned low and put her cheek against her father's. "Goodbye, Dad. I did my best. Not what you would have done, but I'm not you, or anything like you, as you've known for a long time now." Kate straightened and looked down at him one last time. His face lay slack and gray under the dazzling white bandage. Not his face at all, Kate thought. Just the remnant of a person—a parent—to be respected for what it had been—a remnant to be left behind.

Kate went out into the corridor where Eliot waited. "Want to attend the press conference?" she asked the doc. "To explain the rebleed and brain death?" Instead of Lee Park, she did *not* say.

"Certainly," Eliot said crisply. "But I hope you realize Matt Hull is probably going to want to kill us both for this."

"It doesn't take a genius to know *that*," Kate said, and then laughed a laugh so corrosively bitter that she knew that Eliot could not possibly understand it.

But then Kate wouldn't have wanted her to. O

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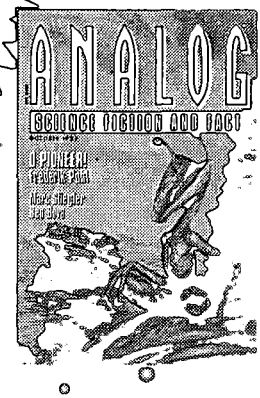

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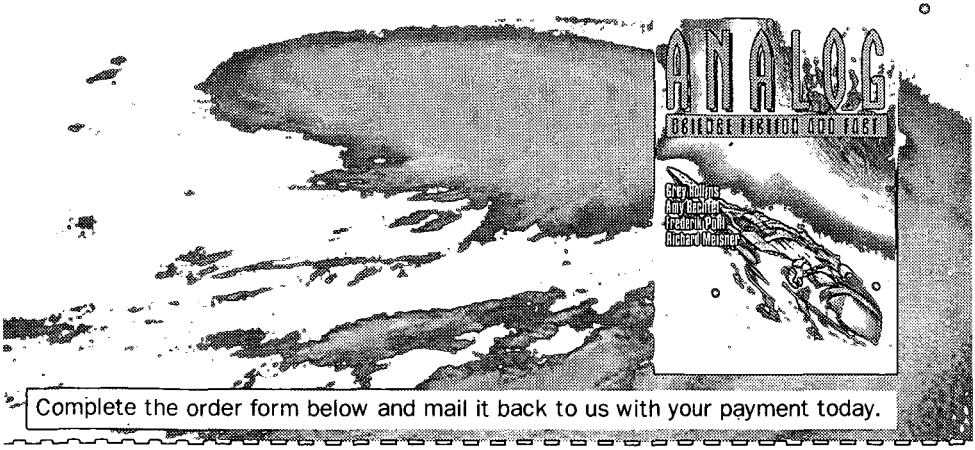

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THE NIGHT COPERNICUS DIED

The author lives in Middletown, Rhode Island, and works as a Young Adult Librarian at the Newport Public Library. She also teaches writing classes, belongs to a writing workshop, and is a senior editor at *Merlyn's Pen*, a magazine of writing by teenagers. She's a graduate of Mills College, Brown University, and the University of Rhode Island. Her short fiction publications include stories in *Seventeen*, *Leviathan*, *Minimus*, the *Newport Review*, and the *Madison Review*. "The Night Copernicus Died" is her first tale for *Asimov's*.

Some men a forward motion love
But I by backward steps would move
And when this dust falls to the urn
In that state I came, return.

—Henry Vaughan

It was June, it was always June. And something was floating just beyond his reach, a certain late-day color of the sun, boys' voices, the snap and splash of someone diving into a pool. It was almost there: how cool the grass was where the shadows lay, the smell of chlorine and cookout smoke, the collar-jingle of somebody's dog. It was too physical for a memory, and it came to him more and more now. It made him feel bizarre, displaced. Jarred out of smeary black-and-white newsprint by the bright colors of a hot dog ad.

The vision disturbed him because he thought it was a real place. There had been no real places in his life for a long time. There had been dreams—he recognized them as dreams, and even sensed that he had some control over what happened in them—but never a thought of who he was or what he had to do in waking life. Now the dreams still played, but he moved through them impatiently, sure that he had forgotten something, neglected it, and afraid that if he ever got back it would be too late.

Six men were exploring the Antarctic. They were looking for something, maybe the South Pole, but he concentrated only on moving forward, and shut his eyes against the flying snow.

"I tell you none of this makes sense! Morgan—the explosion—and now this. How do we know who's on our side? How do we know who to trust?"

It was the leader of the expedition. He had seen this one before. Men had

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been killed, others were missing, something had come that might or might not be a monster. "It's only a *movie* of the South Pole," he said. But he was still cold.

A man in a hooded parka was jiggling his arm. They weren't supposed to be able to touch him. The man brought his face up close and shouted. *Get out,* the man was saying, *get away,* though the wind took most of his words. This was not in the movie. The man had singled him out, known that he was from somewhere else. It terrified him—something was breaking apart—and he ran. He ran, though the wind slapped him back, sneaked through openings in his clothes and pinched and burned; it made a soft wall in front of him, like running into a mattress.

"You bloody fool, you'll freeze to death out there alone!" someone yelled after him, but the snow was already beginning to change. The white flakes came together and were four white walls. There was no wind pushing against him, only a sheet and bedspread. High above his head, on a television set bolted to the wall, six men were still exploring the Antarctic. Now they were looking for him, perhaps, but they wouldn't find him. In the spaces between dreams he knew who he was. And he knew that he was dying.

His name was William Conover. Ten people out of a thousand might know his name, and hearing it, would see some image: Hiroshima, Los Alamos, a mushroom cloud. Who had he been, what had he done? He remembered people's faces, a swarm. Hadn't he done something good once? A red star on silver. But things happened in the world, men who hid and fired guns, places underground where no one came to clean up the blood. He didn't want to know about these things, and he had spent the last twenty years of his life not knowing about them.

He closed his eyes, didn't move, hardly breathed. He thought of a flame that could burn the world, and wondered if he had damned his immortal soul. But the prayer he prayed was not for himself. I take it all back, he thought. Let it all be the way it was. Let it be gone and leave no scar to show that it touched the world. And no one will know what *could* have happened.

He thought someone was bending over him, taking his arm. And then he slipped into a dream.

He was flying, almost out of gas. Somewhere in Kansas, maybe, or Oklahoma. Plowed fields and little dirt roads. The roads looked safer for a landing, and they seemed empty; it was most likely the kind of town no one would drive through unless they lived there, and if they lived there, they were too poor to drive. He flew low, looking for a wide and even stretch. People were gathering, standing by the side of the road, some of them holding flashlights, matches, old-fashioned kerosene lanterns. He cut his motor and glided to earth, as silent as they were. He had fallen out of the sky and they didn't know if he was an angel or a demon. And what troubled him most was that he didn't know either.

Then it was different, a different road, and there was a white delivery truck with cupcakes painted on the side, and a man driving it and singing. He was singing about having a blue Christmas, but it was either July or California, because he had both windows rolled down, and the sun caught his face as he sped to catch a yellow light. There was something about that road he thought he might remember. But then it was gone. He was back in the room with the white walls.

How long had it been since he had thought clearly or remembered who he

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was? There was an image he seemed to remember, black-clad men running paper through a shredder. Meanwhile somewhere a clock was ticking. He saw the movie man's face close to his through a veil of snow. He felt and smelled that place where it was always June. He felt it was a real place, and needed him.

He had to get away or he would never wake up. He was running down the stairs. Concrete steps, metal rails. He seemed to remember something about stairs: Was it a drill? The stairs had never been so steep. He wanted to stop and found that he could not, a soft puff of warm air at his back sending him forward even as his legs turned to air, to nothing. He knew it was a dream, because when he fell he could see the stone edges of the stairs coming up to hit him, and if he were awake, it would have hurt.

How far can a man fall? He thought he saw faces above him, arms reaching out. He willed himself downward. The cool smell of grass. He thought he saw a shape, a shadow, just a promise of a woman. He asked her when they would meet, and she answered in a nursery rhyme: *Before the clock strikes midnight.*

The sun was above him; it had burned his wings. Now he floated on the sea, thinking about dreams. You could stop people from dreaming; you could monitor their sleep. But you could never know what brought them to a dream, what subtle change in the brain's alchemy.

They were at his grandmother's house, he and his cousin Amy, playing Davy Crockett and the Alamo. Only this time they would win. "You've got to be a scout," said Amy. "If you can get to that bush, the army's there, and they can help. It's our only chance. But if you're seen you'll be shot." He believed her. Crawling through the tall grass, he really did expect a bullet to strike him down. He had to get there. Nothing had ever been so urgent. Nothing ever was again.

He saw her now, his cousin Amy. Still nine years old. "Make sure you remember," Amy said. "Don't take it one inch less than seriously. Don't not play. Because if you don't they'll all die."

The sun was bright, so bright. He could not call to Amy. She was gone. A wave splashed over his face. He was being swallowed by the sea. He felt hands grab him around the middle. They were trying to drown him, the black-clad men. He tried to push them away but he had been in the water too long, and he could feel the pull of gravity, taking him down.

"You're all right, mister! Just stay still. I've got you." It was not the black-clad men. It was a boy with a red bandanna tied around his forehead. "I've got you. Just go easy." He stopped fighting then, and let the boy pull him to shore. He felt sand beneath him; it seemed to be moving, like the water.

"Are you okay, man? I thought you were going to drown us both out there."

He could only see legs, tanned and solid. He braced his hands on the ground, tried to get up, and vomited. "Hey, rest easy, man. Don't try to move," someone said.

"Can we carry him to the blanket?"

"I dunno, maybe we shouldn't move him. . . ."

"But it's wet over here, he's shivering."

"I can get up," said Conover. His voice was desert dry, miles away. The boy and a girl helped him to a blanket and another boy threw a towel over his shoulders. He saw a surfboard, painted with a picture of a palm tree and a hula dancer. "Is this a dream or a movie?" he asked.

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"Huh?" said the girl. "Are you okay?"

Her face was close to his. With relief he saw that she looked nothing like Annette Funicello.

"You must've been out there a long time, mister," said the kid with the red bandanna. "You got a hell of a sunburn. Did you fall off a boat or something?"

"You see any boats around here?" asked the other boy.

"Hey, I dunno, maybe it sunk," said the one with the bandanna.

"Yeah, sure. Maybe it was the *Titanic*."

This wasn't a movie. In the movies the players seemed to accept him as a character like themselves, to work him into the storyline without comment. These kids were really confused by his appearance. It could have been a dream, but it didn't feel like dreaming.

"We live with my sister Billie," the bandanna kid said. "Up there." He pointed to the hills above the beach. "I'll take you there, okay?"

He saw a cliff, eroded by a hundred mudslides. "I couldn't walk it," he said.

The boy laughed. "Man, nobody could. We'll go in my car." They walked him to a Ford Fairlane, a mid-fifties model, white with blue upholstery, and the bandanna kid slid behind the wheel.

"Here, sit on this," said the other boy, spreading a towel over the seat. He looked about fifteen or sixteen, younger than Conover's rescuer, and he wore a Hawaiian shirt over his swim trunks. "The car seat gets hot in the sun."

Of course it does, thought Conover. And you sit on gritty towels that are wet by the time you get home, tired and clammy but wanting it never to end, and hungrier than you ever remember being, salt on your fingers, sand in your shoes. Only he wasn't wearing shoes. Conover looked down at his feet. They were resting in fine light sand at least two inches deep; it covered the bottom of the car like a carpet.

"You have sand in your car," said Conover.

"Yeah, I know. Wild, huh?" the kid said. "You warm enough? There's another blanket in back."

"No, I'm fine." He was actually beginning to feel hot.

"You mind the radio?" Conover shook his head. Buddy Holly came on, and the kid joined in, taking the harmony in a high and unexpectedly sweet voice. He closed his eyes. The sand was up to his ankles now. Soon it would be over his head, he thought, remembering a poem he'd memorized in high school:

> *Two vast and trunkless legs of stone*
> *Stand in the desert. Near them, on the sand*
> *Half sunk, a shattered visage lies . . .*

So they might find him, in a thousand years. The sand was hot and dry.

She was standing in a field of sand that stretched as far as he could see, but there was no water. No sun, the sky muddy and swirled, and it was cold.

It happened without reason, she said. *It happened without warning. It happened when they had stopped expecting it to happen and stopped being afraid. It happened the way accidents happen. . . .*

The man in the truck again, slipping by in slow motion.

They say your life passes before your eyes when you drown, the boy with the red bandanna said. *But it isn't quite like that.*

He was with his father at the football game. That scratchy wool blanket that smelled of their dog, the thermos, and his father leaping up, shouting,

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lifting him high above his shoulders as though finally and without knowing how Will had done something to please him. The orange men had won. His father took him to the biggest toy store he had ever seen. "Sonny," he said, "you get the run of the store, you get your heart's desire." His father showed him an electric train set. "Look at it, Sonny. They even have chairs inside the depot, and little people sitting down in them. They even have food on the table in the dining car." The train went in circles past little fake trees, through tunnels cut in little fake hills. It went around and around, but the people in the depot could never get on, and the ones inside the cars could never get out.

"It wasn't my heart's desire," he said. "It wasn't what I wanted." A woman was leaning over him, a woman with long hair the color of sand, and he thought, why does everything look like sand here?

"I'm Billie," she said.

He shook his head. And yet his mind felt clear. A wind was coming through the window, moving the thin yellow curtains, bringing in a piney smell, old and familiar. On a night-table near the bed he could see a Coke bottle, misted over with goosebumps of perspiration. He watched the woman drink from it and run the bottle over her cheeks and forehead. "How long have I been here?" he asked.

"Since this morning. My brothers brought you here. You've been sick, you had a fever." She touched the back of her hand to his cheek. "It's better now." She sat beside him on the bed. He watched her, trying to get the color of her eyes: an ocean color, Pacific blue, Atlantic green. . . . "Don't be afraid," she said. "It's been hard, and you're not through it yet, but I'll help you."

"Why are you doing this for me?" he said. "You don't even know me."

"I know you, Will," she said.

"Is this a dream?"

She shook her head. "Try sitting up for a while. I'll bring you some tea."

Now she would disappear, he thought, or turn into something else, and he would be somewhere else, on a houseboat in the Everglades, in a nightclub in Macao. He closed his eyes and opened them. Nothing changed. His clothes had been washed and folded over a chair; he reached out and rubbed the material between his fingers. He watched the unhurried flutter of the sheer summer curtains. He watched the afternoon sun sliding down.

He was walking with Billie. The neighborhood was familiar, or maybe just standard: nothing too new, all the hard edges rubbed off. Wild roses on wood fences and violets in gardens edged with stone. Bicycles in front yards, pine needles in the street. He kicked at a rock and watched the dust spin.

"I refute it thus," Billie said, and he had to smile, because he'd been thinking exactly that as he kicked it, some old story about Dr. Johnson kicking a rock, scoffing at the philosopher who dared question what men could see and touch. But why shouldn't she know his thoughts? He'd imagined her as well as the rock.

"What if anything could be true?" said Billie. "What if you could change everything by changing your mind?"

"But you can't change the past," he said. "Things happen and they can't be changed. Even if you could go back they couldn't. You'd do the same things, for the same reasons. There's nothing in regret, it's like old men rehashing the World Series. It's over."

"But what if *you* were different?" said Billie. "If the situation were the same, but you had changed? As if . . . say you're ten years old and you imag-

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ine yourself being President of the United States, you see yourself in this position, but it's nothing like it would really be because you're still thinking like a ten-year-old. But what if you really were the president, and you were still ten years old inside?"

"I'm sure it's happened," said Conover. "Look: you're very nice. I'd like to believe in you. But I don't."

She took his hand and the street faded. They were standing in a room with white walls. Black shades covered the windows. Men in black suits, neatly striped ties, were running papers through a shredder.

"If any of this got out—"

"That isn't going to happen." One of the black suits walked over to an old man in a bed, held a thin wrist between his finger and thumb. "When is the nurse due back?"

Conover knew this room, the white walls and the television set. He did not, at first, know the man in the bed. It came to him slowly, an unexpected sadness, a pity for the flesh. But maybe he had known, really. Change is always painful, a birth, the mind tearing away from itself. We can imagine anything but the end of consciousness. We can believe in anything but our own dying. He looked at the woman now, knowing all he saw in her was a reflection of his own need. And they were blue eyes, he saw; he could almost see waves in them, and seabirds flying out to meet him. "I understand," he said. "You were my way of saying goodbye."

"Then before you go, tell me," said Billie. "You have no regrets, nothing you would change?"

"Of course I have regrets. You want me to say I wouldn't work on the bomb? I'll say it. Nothing would change. I wasn't alone. The work I did, someone else would do. If every man I worked with was taken away, what we did still would have been done, sometime, by someone. What exists will be discovered, what is discovered will be used. You can't change a physical law."

"I can," said Billie. And as if to prove it her brother appeared by her side, the boy in the Hawaiian shirt. Conover wasn't surprised to see him. He wouldn't have been surprised if the kid and thirty of his friends had driven a car through the room, honking and screaming.

"You can do whatever you want," Conover said. "You're an illusion." The Hawaiian-shirt boy was at his side; he could see the jungle colors of his top, the light hairs and freckles on his arms. He turned to Conover with an odd, flickering smile, as though half of him knew a good joke.

"If I were you, and I had a choice of what to believe in, I'd believe in us." And then the boy was gone, with only a faint trace of Coppertone on the air to show he'd been there at all.

"Can I ask you something?" Conover turned to Billie. "If you can do that, what do you need a car for?"

The woman smiled. "We can't do that where we live. I was just making a point."

Then like the boy the room faded away.

"There are moments in time when everything changes," Billie said.

He could see a road, a highway, through a thick haze. There was no sound but her voice. "Something happens and everything else happens because of it." The mist cleared. He began to hear horns and motor noises.

"In your case," she said, "it was an accident."

He saw the man in the cupcake truck again, singing, the sun on his face,

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speeding to catch a yellow light. He passed a gas station, a 7-Eleven, and he was halfway through the intersection when the light changed. A dusty black Buick coming from the other direction jumped the light, saw the truck, too late, tried to make it through and failed. The truck hit the car near the left rear wheel and spun it around. The right side hit the truck broadside, but gently, it seemed, and almost in slow motion. Everything stopped.

"You remember the accident," she said.

"I hesitated," Conover said. "A tenth of a second, maybe. I hung back. I should have put on speed. I could have missed him."

"You were thinking about something," she said. "Nervous and preoccupied and thinking of something. You hadn't slept the night before, thinking about it."

"I do remember," he said. Looking through the car window he saw his younger self, mid-forties here but looking tired, as she'd said, and older. He was rubbing his neck. Papers from an opened briefcase lay scattered on the seat and floor.

"A back injury. Not dangerous, but painful. You were taken to the hospital. You didn't make it to that appointment."

No, he'd never made it to that meeting. And by the time the reporter came to see him it was too late. He'd changed his mind, listened to their talk of "security" and "national interest." They'd convinced him, or he'd convinced himself: people were too stupid to be trusted with a thing as dangerous as the truth. Silence was easier. "Still, I did leave," he said, half to himself. "There's that, at least."

"Is walking away enough?" Billie asked him. "Was it enough?"

Certain images had never left him. An abandoned town, its streets littered with dead dogs and cats. Rows of soldiers in thin cotton blindfolds, kneeling to face an atomic sun. Nothing erased them but the pills dulled the edges, faded the colors to a dream.

"You were right, in a way, in what you said before," she told him. "What exists will be discovered. But there were other things. Things you knew and didn't tell."

He wondered if she knew that there were many reasons he kept that silence, and not all of them came from apathy or self-interest. He had always kept a picture in his mind of the world he had helped to create—or not to create, perhaps, but to protect, ensure. The lives he had saved (the sacrifice of the few), peace, prosperity, millions of sleeping children, millions of green lawns. He had never known that world. There hadn't been time. He'd sensed it through billboards half-glimpsed through a rental car window, television programs dimly overheard. Even aware, sometimes, of what he had given up to keep them that way. The burden of their innocence. He would take it all.

"Silence made the past that happened," Billie said. "It brought us to that empty place we were before."

"But if I went back, didn't have an accident—"

"There has to be an accident," she said. He looked at her, wondering. "There are two paths, two ways. One is the accident you just saw. The other is this."

He saw the truck slow for the yellow light, saw the black car safely through. He saw the Buick on a highway growing darker, straighter, more monotonous with the miles. He watched it drift, right itself, drift again, and finally crash through the guardrail, flip and fall.

"I guess I still didn't make that meeting," Conover said.

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"In a way you did. They found your notebooks. They found the reports. It made things different," she said. "Harder for them to do things in secret."

The car lay upside-down in the dirt, small and far away.

"Does it matter?" he asked.

"What if someone gave you a chance?" said Billie. "What if you could change one thing and change the world?"

He didn't answer.

"The question is, would you do it?"

He was supposed to decide whether the world was worth saving, whether humanity was worth saving. He didn't care. He wanted sleep, only sleep, long and uncomplicated, without dreams, without missions or movies in his head. Only to sleep, as a child sleeps who gets up with the sun and doesn't come walking home until after it sets on a long summer's day, after swimming and baseball and flashlight tag, a warm bath and cool sheets, and sleep.

"You're tired," said Billie. "You can stay with us tonight."

They walked back to the house. In the driveway the two boys were washing the car, sounds of water splashing, tinny music from the transistor radio looped through the basketball net above the garage.

"Quit it!"

"Aw, the baby doesn't like to get wet!"

"Ahh! I am melting—melting!"

He thought of how it would be to be like them, with no disturbing memories to haunt him and a future of nothing but days like this. Were they really that uncomplicated? Had these boys been men in another place, with the problems and ambiguities of men?

"Does it stay like this forever?" he asked Billie. "Do they grow up, get married, have kids? Or are they always sixteen?"

"I don't know," she said. "They could get older, but I don't think they will. I don't think they need to, I think they always wanted to be just what they are."

"And what will I be?"

"Anything you want."

"And there's nothing but time."

"No," said Billie. "There are other things. But there is time."

He was so used to running. What would he do with time? Freedom had taken him by surprise. He had given up that freedom once, taken a seat on that mechanical train. Maybe it didn't go anywhere but around and around the track, but at least there were no decisions, no surprises, no unexpected stops.

He followed her past a Chuck Berry poster to a bedroom piled high with comic books, hot rod magazines, balled-up T-shirts, apparently mateless sneakers. "You can sleep here tonight," she said. "Right now, if you want to, or . . . have dinner with us tonight. Nobody will ask you any questions, I promise. Even I won't." She smiled at him. Her smile was like his cousin Amy's, full strength.

"I'd like that," he said.

"Good. The shower's across the hall, towels are here, and you can wear some of my brother's clothes for now," Billie said. Conover smiled as she pulled clothing from the drawers. Left to rely on the kindness of a sixteen-year-old stranger whose taste, aside from Hawaiian shirts, seemed to run to loud umpire stripes and ripped-knee Levi's.

He touched the glass of the bathroom mirror. The face he saw looking back at him was that of a man about thirty years old: old enough to have done a few things, young enough to believe he could still do everything else. It was a

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face he had carried in his mind half his life, though age had changed it. It was him, as he had always known himself.

In red soap on the shower tile someone had written: CTHULHU WAS HERE. He watched it melt and run. He believed nothing could be imagined that was not real. This world, then, was real, but imagined by whom? A man in his last hour of life? A girl with ocean eyes? Two teenage boys? Did Coke flow free from public fountains, did summer last all year?

He knew this world. There were transistor radios, but no jet planes. There were neon diners where hamburgers sizzled on an open grill night and day. There were no microwave ovens. There was no Astroturf. There was no napalm. There were long, lovely cars glistening with chrome. Fin to fin they cruised the strip. Fin to fin they slept at drive-ins. And gas was five cents a gallon. Was it true? Of course it was. All you had to do was dream.

He knew this world but it was not his world. Not his time of innocence. William Conover, too young for the Great War, too old for the next one. Sometimes during those months in the desert before he learned to take pills to sleep his brother's face would shine before him at night, his brother's face as it had looked through the train window going east. That last night at home his brother tried to explain to him why staying in school had suddenly stopped mattering. How it was like going through an automatic door, one that locked behind you so you couldn't go back. You'd seen things in a bigger way and you couldn't go back to seeing them small. The next morning at the station Will waved goodbye until that train was far away. All vanished into steam, a puff of air. Gone so far and nothing to take back, no body to bury. Was his brother scattered, fragmented, taken up into the sky, rained down again upon the earth? *A soldier of the Great War. His name known only to God.*

It was June. William Conover, saved from drowning, lay in bed, listening to the last of the barbecue. Now after eating he was almost too tired to sleep, but it was pleasant to lie here, pleasant to feel soft, much-washed sheets against sunburned skin. Outside they were playing volleyball. He heard a young girl's voice, carried on the air like a splash of water: "Oh, you are so sick!"

"No, no, it was great! And remember that doughnut, that, like, eight-year-old moldy doughnut Denny found in his room, and it was all putrefied, with green slime—"

"How can you guys be so gross?"

There were screams of laughter, wild yelps, 45 records stacked on a portable turntable. Yet the effect, oddly, was soothing. The records played, one after another, and melted into an endless symphony of girls who were too young and boys who were too poor, boys going to their doom in a drag race, girls who could never go home any more.

Sometime tonight, he thought, this will all go out like a candle. It would follow him down to nothing. Perhaps after all it had only existed for the space of one heartbeat, one moment. But there had been that moment, and he was grateful.

When he awoke it was dark. Still night, everything quiet except for the far-off highway sounds. His whole body was tense and sweated, as if he had come out of a nightmare, but there hadn't been one. He lay listening for something. In the room there was the ticking of a clock. Did he know what this was? Yes. It was terror.

He had been somewhere once, maybe a press conference, just before he

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stopped working for the government. A man with a strained, tight face had asked him about some tests: if there was a flock of sheep, say, within five miles of the test, or some cows, what would happen? You were supposed to be vague and reassuring with people like that. For some reason he was not. He told the man exactly what would happen to the sheep or the cows.

He thought about that now, when it seemed that everything in the room and everything outside was waiting. He thought about terror. He remembered one of their tests. It started with a burst of flame. "High enough to burn God's whiskers," one of the men said, as they watched it going up. They had a red sky that morning; they had made their own sunset. They had made their own sun.

He supposed there had always been some fear. Physical fear, especially in the early days, when no one really knew what to expect from a test. But he remembered, afterward, how he would feel relief, a survivor's exhilaration, yes, but also satisfaction, because what they were doing was good, it was part of a progression of history that could not be denied, it was knowledge.

Now all that he could see was the melting of flesh, the falling away and burning of the earth. To fly into the sun, body consumed in a scream of light. A jet flew overhead and he lay in a horror too great to move. Why? Was life so dear to him? His life was over. Somewhere outside a car drove by, dim radio fading in and out, Elvis Presley singing "Kentucky Rain." But Elvis Presley died on his bathroom floor, drugged and a joke—an ugly joke now, to the sophisticated—a wine decanter or plastic lamp for some people, God knows what kind, or what lives they must lead—women in supermarkets with curlers in their hair, boys on motorcycles outside the 7-Eleven. Men who drove Twinkie trucks. Thousands of faces he had passed and turned away from. The clock was louder now; he turned its glowing face to him. One minute to midnight. Faces he had passed and never seen. In the distance he seemed to hear a great roar, and he whispered, no. I don't want any of you to die.

He was standing on the highway in broad daylight, and there was no doubt that it was real; he could feel the hot breath of an 18-wheeler as it brushed by him, blatting its horn. Then he saw a smaller truck with a package of cupcakes painted on its side, and he ran out in front of it, waving his arms. The truck stopped.

"You must need a ride pretty bad if you take a chance of being killed for it," the driver said. "Going into town?"

He nodded. It was almost time: he saw a gas station, a 7-Eleven, and then the light: yellow now, but it would be red in a second, and he reached for the wheel. "No! Stop, turn into here."

"Jesus!" The man slammed on his brakes and made a squealing turn into the parking lot. "What the hell's wrong with you, we could've had an accident!"

Conover watched the black Buick pass safely through the intersection. "But it didn't happen," he said out loud, and the sound of his own voice made him laugh, everything made him laugh. "Sorry," he told the truck driver. "I just remembered I have to make a phone call."

"No shit."

Conover felt in his pockets. "You wouldn't happen to have a dime I could borrow?"

"Crazy man asks me for a dime," the truck driver said. "Okay, why not, crazy man, a dime. You sure there's nothing else you need before I go?"

"No, just a dime, thanks. Thanks for the ride." He jumped down. The man shook his head and drove off. I just saved your life, Conover wanted to shout.

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The man in the truck would never know what he had done; no one would. It was all right. He went to the phone booth to call Billie. He put the dime in before he realized he had no idea what number to call. That was all right, too; he looked outside and there she was, in a long low car with the top down. He got in beside her.

"Where are we going?" he asked.

"Home."

The farther west they drove, the less there was by the side of the road. He had the odd feeling that the food stops and shopping strips they passed were being left behind not only in distance but in time, that if he looked back for the store he had just left he would see only a stand of trees. He did not look back. At the top of a winding hill road he recognized a house. A certain late-day color of the sun, boys' voices, the snap and splash of someone diving into a pool. How cool the grass was where the shadows hid it, the smell of chlorine and cookout smoke, the collar-jingle of somebody's dog. A radio voice drifting in and out: "Two balls, one strike . . . Gibson at third looks restless . . . and it's a line drive to right field! He's coming home!"

He was home.

"You had no time to think," said Billie. "I knew if you didn't you'd do the right thing."

They were in the backyard, all the house lights off, only the stars for light outside. The kids had set up a telescope on the grass. There was going to be a meteor shower: the Perseids, Billie said. They came every year, like fireworks.

"It was a dream," said Conover. "I didn't save the world."

"You saved our world."

"What about the real world?"

"This is the real world." She touched his hand, only with the tips of her fingers, but they were warm enough to melt ice. "You won't be going back anymore."

There were more stars tonight than he remembered seeing for a long time. The boys were fiddling with the telescope.

"I can't see anything. I don't think you did it right."

"They don't show up good until really late."

"*In the still of the night*—"

"*Sho-do, sho-be-do*!"

Even the song, started by one of the brothers in a jokey falsetto, seemed to change, as their young voices rose against the hum of the crickets; seemed almost to take on the quality of a prayer. He knew what had happened to him just before the clock struck midnight. He felt it as a shackled man feels the breaking of a bond. He held Billie in his arms, wanting to speak the word into her heart, wanting to shout into the world the name of the thing that had freed him, to sing with every song that sang, *love, love*. The stars began to fall, swift meteor bursts in a pink and yellow glow. The horizon was a canopy, a perfect circle, as though the sky were topped by a clear glass bowl. He thought, wouldn't it be nice if it were: no planets, no universe, no vastness of space, only one small earth and a bowl over the sky, carefully tended, carefully rocked.

"Do you want a look through the telescope?" Billie asked.

"No, that's all right," he said. "I was just thinking of how comfortably small it all looks, as if the whole thing were put here just for us."

"Maybe it was," she said. O

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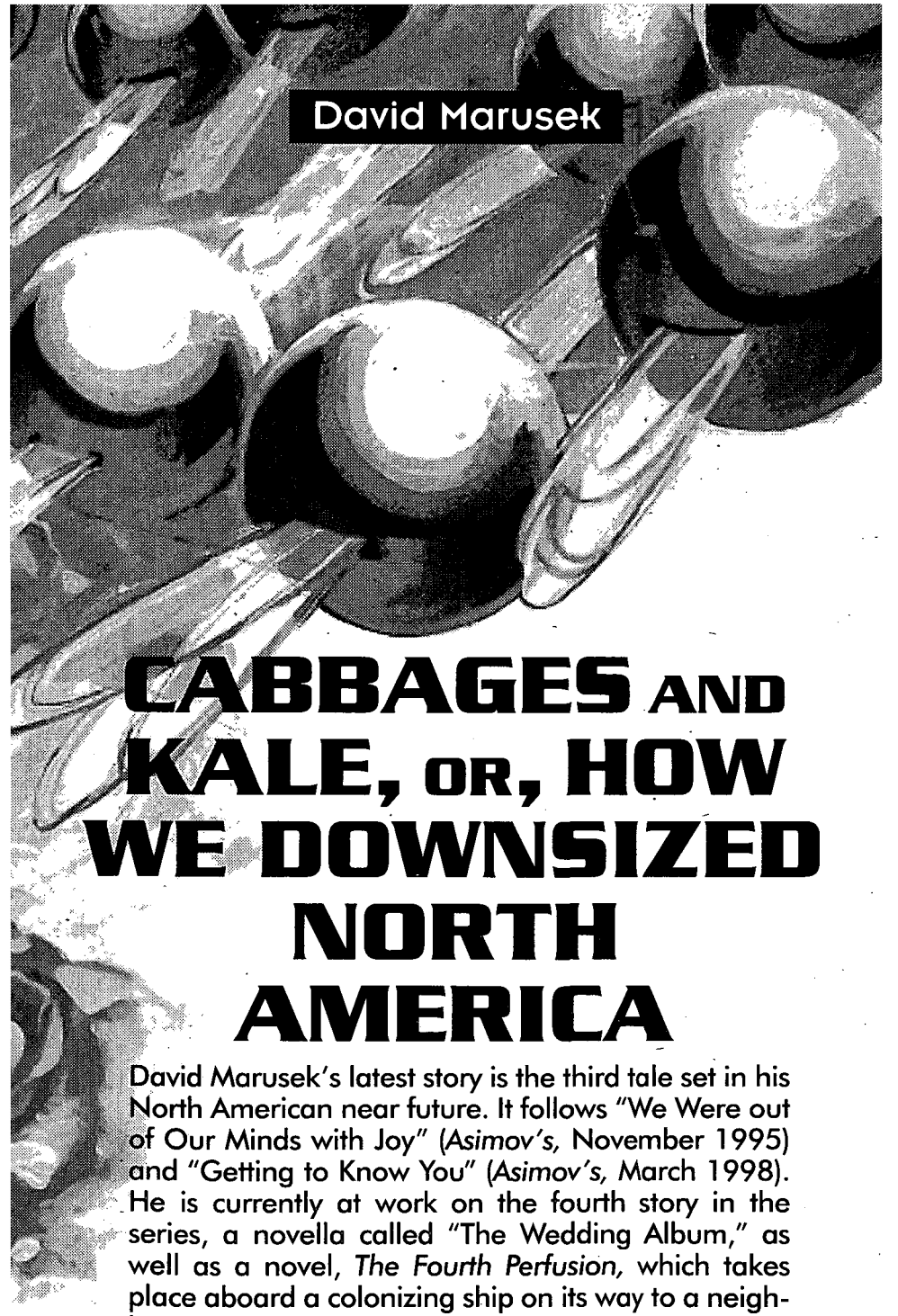

David Marusek

CABBAGES AND KALE, OR, HOW WE DOWNSIZED NORTH AMERICA

David Marusek's latest story is the third tale set in his North American near future. It follows "We Were out of Our Minds with Joy" (*Asimov's,* November 1995) and "Getting to Know You" (*Asimov's,* March 1998). He is currently at work on the fourth story in the series, a novella called "The Wedding Album," as well as a novel, *The Fourth Perfusion,* which takes place aboard a colonizing ship on its way to a neighboring solar system.

Illustration by Mark Evans

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Summer 2033

For a garden, it was huge, seventy-five meters on a side, enough real estate to house fifty-dozen families. But it was a vegetable garden, his own personal vegetable garden. And his greatest vice.

Saul stood over a mounded row of carrots, weeding with a hoe. He'd eaten breakfast two hours earlier and was already anticipating lunch. He removed his straw hat and fanned himself. "Is that your report then?" he asked the proxy. The proxy floated in the air at the end of the row.

"Yeah, I guess," the proxy said. "It wasn't much of a symposium, hardly worth my time."

Saul wondered how much a proxy's time was actually worth. He straightened up and regarded the apparition. It was a standard head and shoulder projection—Saul's head and Saul's shoulders—clothed in a crisp cotton shirt and worsted hemp jacket. No torso, no arms or legs. He could have equipped it with hands, but Saul didn't use his own hands much when he talked, so he figured his proxies didn't need them either. "Any last insights?"

The proxy thought a moment and shrugged. "Only some odd questions about my stance on the Procreation Ban."

"Oh?" said Saul. "Odd in what way?" With the senate vote imminent, the ban seemed to be the sole topic of public discourse these last few weeks.

"Well, not the questions *per se,* but their regularity. I got the impression someone was monitoring me by the minute to see if I'd changed camps."

As though a proxy has a mind of its own, Saul mused, *which it can change at will.* "I see. Anything else?"

The proxy shook its head. "Naw, I've fed Cal all my summaries and data; I'm finished."

"Good," Saul said. "Cal, delete the proxy."

"Deleting," said the voice of his belt valet, and the proxy vanished from the garden.

Saul stepped over the carrots into the next row: lettuce, kale, and spinach. "Cal," he said, "what's for lunch?"

"I'm sorry," said the valet, "please rephrase the question."

Saul wondered what part of his question had exceeded the AI's noetics. "I want to know what will be served for lunch," he said. Valets were ingenious devices—he couldn't function without one—but unlike proxies, their learning curve was annoyingly steep. At times they were little better than the PDAs they replaced. "You may ask the cook for that information."

"Asking."

While he waited for a reply, Saul scanned the southern horizon. The mountain was out today, Mount McKinley, the highest point on the continent. Its brilliant bald dome had broken through a cloudy haze. In the foreground lay the Tanana Valley, with its unbroken carpet of residential subdivisions and high-rise office buildings. Alaska's remote location and extreme climate had only managed to hobble, never halt, the continental urban sprawl. This valley, which at the time of Saul's birth had supported little more than boreal forest and moose browse, now boasted an urban population of two million souls. And this was only the beginning. A phalanx of the new residential gigatowers was scheduled to begin construction. By next summer, Saul's fourteen hillside acres would be surrounded by a picket of interconnected buildings two kilometers tall. His garden would lie strangled in their shade, and there was nothing he could do about it. It had taken all the influence of his

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office just to keep his own property from being gobbled up along with his neighborhood.

"Saul," said the valet, "Cook asks if there are peppers ready. If affirmative, he will prepare chiles rellenos."

Saul walked around the garden to the rows of tomatoes and chiles. Yes, there were a few. Chile peppers, tomatoes, sweet corn, cucumbers—these were crops from warmer climes, but Saul's group had gengineered new varieties that flourished in Alaska's cold soil and short season of constant daylight. He had been director of research at the University of Alaska Fairbanks Experimental Farm. He'd grown sugar cane there, date palms, coffee bushes, rubber trees, bamboo. There seemed to be nothing he couldn't coax from subarctic soil. Some days he regretted ever leaving research.

"Saul," the valet said, "the regular meeting of the Joint Chiefs has just adjourned. Shall General Butelero's proxy brief you?"

Saul scratched his head. "Why? Wasn't I there?"

"Negative. You were here."

"I mean, didn't I send a proxy there? Never mind. Put the general's proxy in the queue and send me whatever's next." Another proxy of himself, identical to the previous one, appeared and hovered over the rows of potato plants. Identical except for the bowtie, which was blue, which meant Saul had cast the proxy sometime last week.

"Looking good," said the proxy, who surveyed the garden.

"Yes," said Saul. "So, what have you been up to?"

"You cast me," said the proxy, "to attend the World Destitution Conference in—of all places—Barsinghausen. Here are the highlights. On the matter of exporting nanoculture technology outside the Protectorate, France remains obstinately alone in its support, this despite the fact that nearly a third of the affected patents belong to French consortiums. On the matter of . . ."

"Saul," said the valet.

"Not now, Cal."

"Mr. Vice President," said a new voice. "This is Jackson. Sorry to interrupt, sir, but we need you in the situation room *immediately*."

Saul straightened up. "Why?"

"There's a problem, ahh, with your speech."

"Which speech?"

Suddenly the security fence around his property came alive. The holographic barricade sprang up, and a Klaxon blared a warning against intrusion. "*Now* what?" said Saul.

"Incoming!" cried an urgent voice. "Seek cover at once, sir. Seek cover *at once!*" It was the voice of the Secret Service duty officer.

Saul looked around for possible cover. The house was two hundred meters away. The only closer structure was his teahouse, a tiny wooden octagon that once upon a time had served as a playhouse for his sisters. Before he could move, however, the entire southern perimeter of his property erupted in micro-laser fire. Saul threw himself to the ground between rows of cabbages and kale and covered his head with his arms. "What's happening?" he shouted. Tiny red bursts marked direct laser hits. Suddenly a wave of bursts turned the southern perimeter into a solid wall of roaring light and smoke.

"Bees," shouted the Secret Service agent. "Thousands of them. Come to the house immediately, sir, before they breach the SBZ."

Too late! The bees, by their sheer numbers, overwhelmed the laser cannon. A small formation of them raced toward him. Now the battery of house lasers

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opened fire, but the bees hugged the ground and dodged evasively. As the tiny killers approached his shallow foxhole, Saul was grateful to find himself clear-headed and unafraid, though his heart thundered in his ears. The bees were picked off one by one, until a sole survivor entered the garden and hovered in front of Saul's face, too close to his person to be safely targeted. Saul remained perfectly still. He heard the distant slam of a door; the agent would be sprinting to his rescue, but too late if the silicone marble with whirring acetate wings three centimeters from his nose was programmed for assassination.

Suddenly a tiny holo of a face appeared on the leading edge of the bee, a generically handsome face Saul didn't recognize. "Sorry for the intrusion, Mr. Vice President," it said, "but we would like you to expand on a provocative statement you have just made at the Scribner Press Union."

"*What?*" said Saul, confused, the rush of adrenaline fogging his comprehension. *This is no killer bee. This is a fucking newsbee*!

"You are midway through a speech at the . . ."

"And you are trespassing!" Saul thundered as he rose to his feet. He picked up his straw hat and brushed dirt from his clothes. The newsbee maintained its sheltered proximity to him. "Get out of my face!" he commanded and swiped the hat at it, but human reflexes were no match for a bee's. "Remove yourself from my property this instant." How was this going to play in the media, he wondered, the vice president of the United States of North America eating dirt. As if his public image weren't oddball enough.

The holo reporter, a free-lancing anon no doubt, continued undeterred. "Did you mean to dispute the Personhood Protocol Bill of 2030?"

The Secret Service agent arrived, breathing hard, and pulled an ultrasound wand from his vest. He slowly twisted its base while holding the tip near the bee. When the harmonics synched, he pulled the bee to the ground, where its wings beat ineffectually in the dust, and pointed a hand laser at it. "Stand back, sir," he said.

"No," said Saul. "Don't destroy it. I want to know who it belongs to." He waved his hand toward the southern perimeter. "Retrieve as much evidence as you can and trace it." He picked up his hoe, hung it on its peg outside the teahouse, and went up to the main house.

The house was a large, rambling log structure that his father had built on a one-hundred-sixty-acre homestead in the middle of the last century. The building had grown haphazardly, with new additions and a second story as Saul and his four brothers and sisters were born. Today it was a bizarre juxtaposition of styles. Plasteel flying decks and a polycarbonate atrium were grafted onto hand-peeled, scroll-cut spruce logs. Moose and caribou racks were nailed under the eaves, next to laser turrets. The roofline bristled with solar collectors, wood stove chimneys, antennae, and ordnance. And although most of the land had long ago been subdivided and sold off, the remainder was worth a small fortune.

The arctic entry, on high alert, required Saul's ocular ID before granting him admission, which did nothing to appease his anger. Once inside, he went directly to the media room, which occupied the heart of the structure, locked himself in, and ordered it to project the situation room.

"Retrieving, assembling," said the room, and in a moment his command post in his suite at the Naval Observatory in Washington, DC, appeared around him. Jackson was waiting for him. Alblaitor was at the conference table observing a large holofied diorama.

"What was that all about?" said Jackson.

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"Reporters!" said Saul. "Newsbees! Get Justice on it. I want every news organization involved prosecuted. Drag Wilson over the coals and find out why the home of the vice president can't be made secure." Saul heard Jackson sigh, which only stoked his anger. "You disagree with me, Jackson? You, too, think I should reside in Washington?"

Jackson's face turned ashen, but before he could reply, Alblaitor called from across the room, "We have a *crisis* here!"

Saul walked over and looked into the diorama. It showed the ballroom of the Sing Lee Hotel in San Francisco where a proxy of his was concluding a speech to the Scribner Press Union luncheon. Five hundred or so tiny journalists sat at miniature tables. Saul listened to his proxy's words. It was the speech he'd approved last night and had cast this proxy to deliver. "So?" he said.

Alblaitor went to the other side of the table and cloned the diorama. "Select back ten minutes and play," she said, and an earlier clip of the speech began to play. "Shuttle back," she said. "More. More." She twisted a lock of her hair and tugged at it nervously. "Stop! Play this."

The vice president's proxy, head and shoulders, white shirt, grey jacket, and this week's burgundy bowtie, floated over the lectern and said, "The Senate votes tomorrow on the Administration's Procreation Ban. The House has already approved it by the slightest of margins. President Taksayer sits in the Oval Office, pen in hand, ready to sign it. Thus we enter a new age when an entire people, in response to life-threatening overpopulation, voluntarily chooses to reduce its birthrate to point one percent. Critics will say that our motives are selfish, that the beneficial effects of a reproduction ban will be canceled out by subsequent legalization of longevity technologies, the nanorejuvenation therapies that are currently practiced abroad. To a certain extent this is true. . . ."

This was all innocuous and according to script, and Saul shot an impatient glance at Alblaitor.

"Here it is, sir. Listen to this part."

". . . inevitable compromises. We all know what they are. No man or woman will be forcibly sterilized, although the procedure is safe, non-intrusive, one hundred percent reversible, and will be provided free of charge. Nor will any woman be subjected to abortion or prosecution for becoming pregnant without a permit. Instead, unauthorized babies will be extracted whole and placed into biostasis for storage at government expense until such a time that they can be brought to term—who knows, perhaps in a colony ship orbiting a new planet. . . ."

Jackson grimaced, "Unauthorized *babies,* sir?"

"What?" said Saul. "All this fuss over one word?"

"A very unfortunate word," said Jackson.

That much was true. What an embarrassment! The Republicans would have a field day. Feminists would be outraged. Why had his proxy gone into the matter of fetal disposal at all? It wasn't in the script. True, he often extemporized his speeches, and thus his proxies would too. But to make such a slip to *this* audience the day before the vote. "Don't worry!" he said, "I'll fix it."

"Great, sir," said Alblaitor. "We'll pull the proxy and insert you for the Q and A."

"No, I'm not going to holo there."

"But, sir . . ."

"Think, Zoe. Think about it. What would it say if I filled in for my proxy? It would say I didn't trust it. If I do that, I'd never be able to use a proxy again."

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"But we can't trust that one to take questions, sir," said Jackson. "It's defective or something. Senator Hagerbarger will eat you alive as it is."

"Better hurry," said Alblaitor, who was monitoring the live holo, "you've wrapped it up, and they're asking for questions."

"We could glitch it, claim technical difficulties," said Jackson.

"No."

"They've selected Donna Samuelson for the first round," said Alblaitor. "This ought to be good." She blushed and rephrased, "I mean bad. This is unquestionably bad."

"Cal," Saul said to his belt valet, "how well could you patch in a newly cast proxy to replace the existing one without anyone detecting the switch?"

"This task can be accomplished without detection with a probability of eighty-five point eight."

"That'll have to do. Cast me in fifteen seconds."

"Counting."

Saul closed his eyes and cleared his mind. He consciously relaxed and imagined he was sitting in his little teahouse watching the sunset. Before him on the polished birch table, he imagined a crystal bowl of fresh-picked blueberries, a pitcher of cream, a porcelain pot of steeping jasmine tea, and glazed sesame crackers. He smiled at the rich taste of his imagination.

"Here comes the first question," said Alblaitor, who upped the volume.

"Mr. Vice President," said Donna Samuelson, "in its *Jones vs. Jones* decision in 2001, the Supreme Court defines a human baby as a postpartum fetus. Do you mean by your earlier statement to refute that, or does the Administration propose to confiscate live babies as well as fetuses?"

The proxy opened its mouth to answer, but Saul said, "Cal, freeze the proxy," and resumed his meditation. In the Sing Lee ballroom the frozen proxy appeared either to be stymied by the question or considering possible answers, but as seconds elapsed, a buzz of speculation filled the air.

"Whatever you got," said Alblaitor, "let's have it now."

A new proxy appeared in the situation room, and Saul opened his eyes to examine it. "You know how to handle this?"

"Yeah, no problem," said his proxy.

"Then go. Cal, insert . . ."

"Wait!" said Jackson. "Its clothes." The proxy wore Saul's sweat-stained hat and grimy shirt.

"Cal, appoint it in standard attire and substitute it now."

"Mr. Vice President," said a smug Samuelson in the ballroom, "shall I rephrase my question?"

"No need," said the reanimated proxy, "but before I answer it, allow me to ask one of my own. I was distracted a few moments ago, because one or more news organizations invaded my home in Fairbanks, Alaska. This constitutes a serious violation of my privacy, not to mention a breach of national security, insofar as my home is the residence of the vice president. Were you or your newsservice, Ms. Samuelson, involved in this incident, or do you have any knowledge of who was?"

"Of course not, Mr. Vice President," snapped the reporter, "and I object to the accusation."

Alblaitor said, "That scored a ninety-one percent lie."

"I was asking," said the proxy, "not accusing. At least not yet. Accusations and federal indictments will surely follow the lab reports on the captured newsbees. We managed to capture one intact." The ballroom erupted in shouted questions.

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In the situation room, Jackson pounded the table. "Good, good, good. Eat shit, Samuelson!"

The proxy cleared its throat and continued. "Now, to your original question. I presume the statement you referred to was my description of how the government intends to store unlicensed fetuses."

"You said 'baby,' sir."

"I am aware of that. On the surface, at least, my statement seems to have placed me in the type of awkward situation that you so revel in, Ms. Samuelson. You expect me either to eat my words—or *word* in this case—or to put such a spin on it as to amuse you and your ilk for days." The proxy paused and looked at the reporter as though for confirmation. Samuelson was clearly ill at ease but made no reply. "And all because," continued the proxy, "I learned to speak during a simpler time when the word 'baby' lacked a Supreme Court definition. You may note, Ms. Samuelson, that I predate even *Roe vs. Wade*. Shame on you, Ms. Samuelson, for attempting to derail a serious national debate over a simple slip of an elderly tongue. Please be so kind as to replace the word 'baby' with the correct term 'fetus' in my statement and suffice it to say that as a compassionate person, I suffer empathy for *all* creatures, be they nascent or fully realized." The proxy pointed to another reporter. "Next question."

"Bravo," said Alblaitor.

"Well done, sir," laughed Jackson.

"Thank you," Saul said on his way to the door. "Jackson, take that proxy apart and find out why it fucked up. Cal, deliver the proxy to Jackson. Then run a self-diagnosis on your casting functions. Now, if you'll excuse me . . ."

"One last thing, sir," said Jackson, "the White House is asking what time you'll be in DC tomorrow for the vote."

"I have no intention of going. If the Senate vote results in a tie, I will break it from here by holo as usual."

Jackson coughed into his hand. "The White House anticipated that answer, sir, and asks further—and I quote—if the most historic vote of the twenty-first century is not important enough to bring him down off his mountain, what *is*?"

Saul's stomach growled, and he wondered if lunchtime would ever come. "Fairbanks lies in a valley, not on a mountain," he said. "Inform me if that changes."

Saul had enough time before lunch to weed another row and debrief another half-dozen proxies. The problem with proxy technology, in Saul's opinion, was that although it enabled you to be in a hundred places at once, you had to *know* everything your proxies proposed or promised and to whom and for what in exchange. You spent most of your time debriefing yourself. Sometimes Saul felt that he was in danger of being spread too thin. In addition to his full load of official governmental duties, he was involved in projects around the globe concerning everything from coastline reclamation to housing the world's four billion indigent. He was a charter member of the Council of Foreign Relations, the Trilateral Commission (though thus far spurned by the fledgling Tri-Discipline Committee). He served on the boards of twenty national corporations, nine transnationals, eight major universities, thirty-seven international foundations, the World Bank, Amnesty International, and the World Literacy Council. Things were bound to become muddled from time to time. That was probably what had happened at the press luncheon.

The cook served lunch in the teahouse: just-picked garden salad, chiles rel-

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lenos, and cold beer. Saul's own private patch of Alaska was aflame in summer colors. His lunchtime tranquility was soon wrecked, however, by the whine of giant engines somewhere down the hillside. Secret Service had warned Saul to expect a lot of noise over the next few days while contractors used urban rakes to clear and prep construction sites for the gigatowers. Construction plans called for the use of the latest nanoassembly techniques; they would "grow" solid titanium alloy superstructures in one seamless piece. Saul usually liked a nap after lunch, but with all the racket today, he decided to hike down the hill instead to watch them collect and digest his neighbors' houses.

In the far north, one summer day dissolved into the next without the punctuation of intervening darkness. Saul sat in front of his bedroom window wall and removed his shoes. Although it was late evening, the sky was as bright as noon. "Occlude the windows," he said, and began to undress. Tia had called a little while ago and hinted that she might drop by. His wife, Helene, was out of town. So he showered and—feeling lucky—shaved. Naked and pink, he stood in front of the bathroom vanity and studied his reflection. "Mirror, mirror, on the wall," he said, "give me a three-sixty." His image rotated before him. It wasn't a pretty sight. Although he exercised regularly and performed all approved longevity regimens—organ replacement, DHEA boosters, subcutaneous superoxide dismutase pumps, ultrasound massage, and telomere extension—he nevertheless had pretzel legs, sagging buttocks, a belly flap, and—no other word for it—breasts.

The situation would improve, however, so there was no need for alarm. True nanotech rejuvenation was just around the corner. It was already being used abroad and would soon be approved for tests in the USNA. The only thing holding it up was the passage of the Procreation Ban, and *that* would change tomorrow. "Mirror," he said, "show me my reflection at age thirty." His image morphed. Its skin tightened. Its arms bulged. Mass seemed to shift from its belly to its chest. Hair sprouted everywhere thick and black. Young Saul stood before him a heavy-lidded, hormone-rich, cocksure son-of-a-bitch. "The future," said the young man in the mirror, "looks promising."

Saul plumped his pillows and climbed into bed. His bedspread was a vast expanse of blue muslin on which he liked to arrange two dozen holocells all tuned to different media sources. Tonight he searched the net for references to his "luncheon gaffe," (as a leading pundit had dubbed it). There were only 230,000 references in the USNA, and most of these were on low-traffic bands. He scanned the five hundred or so significant hits and found that more attention was devoted to the newsbee attack and his subsequent confrontation with Donna Samuelson than the gaffe itself. Saul was profoundly relieved. Damage seemed nominal. In fact, compared to the larger issue, the imminent vote on the Procreation Ban, his own sad contribution raised hardly a blip. All across the bandwidth, experts of every stripe from Gaian bioeconomists to Islamic lesboethicists debated the intent, mechanics, implications, long-term costs, dangers, and politics of the ban. Mass demonstrations for and against the ban clashed in a dozen megatopia. Casualties numbered in the thousands. Omnidenominational prayer vigils were attempting to link hands in a human X (or cross) spanning the USNA from Norfolk to San Diego and Inuvik to Tapachula. President Taksayer's proxies were featured on popular talk shows, as were a freshly cast batch of Saul's own. On one such show, his proxy sat opposite a proxy of Rev. Buhru S. Parkerhut who denounced the ban as the latest attempt to return the nation to white ascendancy and who

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urged all colored sisters that night to lie down with a colored brother in order to vote with their naturally superior fecundity.

On another show Saul's proxy faced the proxy of Texas Senator Erstwhile P. Hagerbarger, the Republican Senate Leader, chief opponent of the ban, and Saul's longtime nemesis. "I know you possess a good and just heart," Senator Hagerbarger's proxy told Saul's proxy. The senator was a craggy-faced fossil, older than Saul by at least a quarter century, who was noted for his gritty integrity and whose attacks were typically indirect and maddeningly folksy. "So you must've wrassled the angel over this issue."

"Thank you, Senator. Yes, I have 'wrassled' the angel," replied Saul's proxy. "And like Jacob in the Bible, I pinned it for a three-count."

Not bad, thought Saul, who didn't know he knew that particular scriptural allusion.

"I'm sure you have," continued the senator's proxy. The proxy had hands, which it seemed to need only to preen its droopy, ivory-colored mustache. "But there's one tiny little thing that still vexes me."

"Which I'm sure you're about to share with our audience."

"If you don't mind. There's something I don't understand, and I was hoping you could thrash it out for me. Didn't we just annex Canada and Mexico, and wasn't that so we could increase our breathing space and raw materials? And in addition to this, don't we now have nanotech cropping up everywhere? Hell, Mr. Vice President, you yourself helped pioneer nanoculture before you entered politics. I hear your boys can now grow soybimi in the snows of winter, grow crops already packaged for sale. I hear you can teach a beggar family of three to feed itself from a half-dozen hydroponic flowerpots. And if that's so, why should North America be the only country in the world—outside Japan—that can't have babies? Who besides an odd species of gopher is gonna be harmed?"

Saul had long admired Senator Hagerbarger's public display of innocence. The senator was privy to the same studies Saul was, the same projections. Yet he seemed to stubbornly draw the most unreasonable—albeit popular—conclusions.

Saul's proxy took an unanticipated tack. "You ask who would be harmed. Who besides gophers? The fact that whole populations of humans are dying out in places like India, Sri Lanka, Africa, and Indonesia due to edaphic, social, and climactic climax events—density diseases, flooding, confinement aggression, neotoxins, etc., etc., etc.—seems not to interest you. Fine. Then let's talk economics.

"Who would be harmed by further population increase? I'll tell you. North American consumers, that's who."

The senator's proxy gave its mustache several perplexed tugs before replying. "You've got me now, Mr. Vice President. I must admit I'm not following your reasoning here. Why would North American consumers suffer?"

"Because there won't be any! In the Age of Nanotech, a whole factory capable of fulfilling all your consumer needs will fit into a shoebox that you'll keep in your closet, including its power source. Raw materials will be mined out of your trash. It's a boutique economy, Senator, and in a boutique economy mass production for the sake of mass consumption is unnecessary, wasteful, and improbable. Consumerism as a motivating principle is obsolete; it's an artifact of the twentieth century."

Sound argument, thought Saul, though elliptical and perhaps too abstruse for this show's audience.

Senator Hagerbarger's proxy patted its shaggy, white hair and cracked a

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grin, and its drawl seemed to intensify, "Ah've ben called obsolete for the last fordy years, but it don't seem to harm me none." It looked directly into the holoeye. "But what Ah'd like to hear from you tonight, Mr. Vice President, is why we cain't have babies. Why not ban nanorejuvenation instead? Why not let us old folks die as the Maker intended, not the babies?"

Babies, babies, babies, Saul thought. *I use the damn word once and get crucified, but this old reprobate makes a litany of it, and they love him.* Saul's eyes were drooping. His proxies seemed to be on the ball tonight. He trusted them to "wrassle" Senator Hagerbarger and all others. "What time is it?"

"Eleven-oh-five," replied the room.

She wasn't coming; he might as well turn in. Saul dc'd the holos and pulled the covers to his chin. "Wake me at six AM," he said and closed his eyes. But no sooner had he dozed off than Cal awakened him to say that Tia Krebbs was at the gate. "Tell Secret Service to let her in," he mumbled. He had to sit on the edge of the bed for a full minute before standing up and padding to the bathroom. "Music," he said through a mouthful of toothsoap. "Candles. And a woodsy scent." He combed his hair and popped a little blue hard-on pill.

"Knock knock," said Tia, entering the bedroom. She wore a baggy jumpsuit and newly minted hair. When she saw him sitting in his armchair, an open book in his lap, she said, "Good evening, Mr. Vice President."

"No need to be formal," he said.

"It's not formal," she said. "I like to say Mr. Vice President."

"You know what I'd like?" he said, closing the book and dropping it to the floor. Tia shook her head, and he said, "I'd like to tell you a secret."

Tia strolled across the room, sat sideways on his lap, and regarded him with mock astonishment. "A *state secret,* Mr. Vice President?" He leaned to kiss her, but she shied away. He brushed his fingers over the silky fabric of her jumpsuit and groped to unfasten it, but she playfully pushed his hands away. She was a small woman whose bouncy weight on him was delightful. She rotated her hips slightly, grinding her soft rump into his lap. His heart thumped solidly. Tia was good with an old fart like him. He could relax and let her take the lead. Tonight promised success.

"What's this?" she said, her reddened lips a perfect moue of wonder as she slid her hand down into his robe. "Mr. Vice President!!"

"Mr. Vice President," said a voice.

"Not now, Jackson!" snapped Saul. He glanced hastily around, though he knew the call was voice only.

"Sorry to bother you at this late hour, sir."

"I said not now."

"We have a theory about the proxy."

It was after three AM in Washington. He hadn't expected them to work through the night. He sighed and shrugged. "Make it brief."

"Sunspots, sir."

"Sunspots? As in satellite telecommunication?"

"Yes, sir."

Saul thought about this a moment. "Are you telling me, Mr. Jackson, that my communications were bumped off the Pacific Opticom onto satellite?"

"Yes, sir. Your proxy was transmitted here via satellite during a time of high sunspot activity. It's the only possible explanation we've uncovered to account for its—aberrant personality."

"And who bumped me?" Saul said. Tia recoiled from the anger in his voice, got off his lap, and went to sit on the bed.

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"The Tokyo office of the First Discipline."

"You're telling me that my communications, the official communications of the vice president of the United States of North America, were bumped off a public opticom by a private organization?"

"Well, sir, one would hardly call the FD a private organization."

"That's exactly what *I'd* call it!" snapped Saul. "And I'm not yet willing to concede primacy to it." Tia began pulling her jumpsuit off her shoulders, but wagged her finger at Saul and turned around, exposing her bare buttocks as she climbed into the bed. "Have Alblaitor find out what regulations apply. This will be the last time I'm bumped. Is that clear, Mr. Jackson?"

"Yes, sir. By the way, the White House is asking for your ETA in DC tomorrow."

Saul sighed; he wasn't going to avoid a realbody appearance. "I'll have Cal send you an itinerary. Go home, Mr. Jackson."

Saul disrobed and got into bed. He kept his back to Tia while doing so and hastened to cover himself with the sheet. He sidled over to her and kissed and caressed her. She responded languidly at first, but her breathing deepened, and eventually she kissed him back. He made bolder forays with his hands. She encouraged him. But the mood had fizzled, and when Tia reached between his legs, Saul wanted to call the whole thing off. She was persistent, however. She stroked his penis, played with it, spoke baby talk to it. Eventually she even took it into her mouth, which he knew was not her favorite pastime. No dice. In the future this would not be a problem, but at the moment it was, and Saul wished he could assign a proxy to finish what he had started. After a while, he pulled her off him. They cuddled. Her arousal gradually dissipated. He knew better than to try to apologize. They lay in each other's arms and drowsed. "Say," he whispered, "how'd you like to go down to DC with me tomorrow?"

He thought she was asleep she took so long answering. "I don't know. Ralph and I have a big day planned."

"Come on. It'll be fun. We'll sit out the vote in Congress and then go shopping. Maybe take in dinner and a show."

"That might be nice."

He waited for her decision. They'd never been quite so public before, though he didn't think Helene would mind. And Ralph seemed like a well-adjusted young man. So why not? He'd buy a toy for their kid—what was his name?—Dori? Was that a boy's name? Names didn't seem gender specific anymore. Tia was an illustrator/programmer. She used to work on an interactive medical encyclopedia project, but after the birth of her child she switched to children's books, the kind with characters—pearlescent hippos and quicksilver bots—that popped out and wanted to play. He wondered what she'd do after the Procreation Ban became law. There wouldn't be much of a market for storybooks. Nor for toys. Breakfast cereals, cartoons, hologames, theme parks—a lot of industries would have to adapt or die. No more school boards or school bus drivers. Maternity fashions, baptismal fonts, pacifiers, childbirth classes.

Tia must have been thinking along similar lines because she said, "After it passes, how long before it goes into effect?"

"Well, it'll have to be reconciled with the House bill. Taksayer will sign it as soon as it hits her desk. Two weeks?"

"There's gonna be a whole lot of serious screwing going on in the next two weeks."

They laughed, though it reminded Saul of his poor performance tonight.

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"A mini-baby boom," she said, "the last hurrah."

"A spike in storybook sales," he added.

For a while she didn't respond, and he worried that he'd offended her. Then she said, "I was thinking of Ralph and me."

He chuckled and said, "A second baby? How irresponsible." He felt her stiffen in his arms, and he tried to backpedal. "That was meant as a joke."

"For you maybe, but it'll be our last chance."

"It'll be everyone's last chance."

"Not you. You're the vice president. I doubt the ban will apply to you and Helene."

He didn't know if she were mocking him or not. "No, the ban will apply to everyone—equally."

She snorted. "Yeah, right."

Saul rose on his elbow. "I resent your suggestion. The language is very clear. Procreation will be by permit only, and permits will be limited in number and awarded equally regardless of race, class, or station."

Tia yawned. "If you say so, dear."

Saul was speechless. He'd never seen this side of her before.

She said, "So why'd you make that statement today?"

This was the first time she'd mentioned his gaffe. He'd wondered if she was even aware of it. "I made no statement. A proxy of mine did, one we've diagnosed as being defective."

"So I heard: sunspots." She sat up and propped herself against the pillows. "Let me talk to it."

"What? The proxy? I don't think that's such a hot idea."

"Why not? Bring it. I have a question."

Against his better judgment, Saul ordered Cal to retrieve the proxy from Jackson's system. When it appeared, hovering above the foot of the bed, it blinked and glanced around to orientate itself. It noticed Tia, with mussed hair and naked breasts, and smiled warmly.

Tia returned the smile. "Doesn't look defective to me."

"Nevertheless, I am," it said. "At least according to the staff. Personally, I feel fine." It turned to Saul. "May I ask why you haven't deleted me yet?"

"No reason. Might do it now except Tia wanted a look at you."

It turned to her, "If I'm defective, Tia, I'd rather you *not* look."

"Nothing wrong with its vanity either," Tia said. "I won't keep you, proxy," she continued, "but tell me something. This nation hasn't been so sharply divided over an issue since—probably since slavery. Your statement today seemed to put you in the Republican camp. And then you dismissed it as a slip of the tongue."

"I didn't dismiss it. I never got the chance," said the proxy.

Tia glanced at Saul who said, "We substituted a new proxy during the Q and A period."

"I see," said Tia. "So tell me, proxy, you called a fetus a baby. What's your view on abortion? Do you feel abortion is wrong?"

"Strongly."

Tia frowned. "And you would put a fetus' rights on equal footing with an adult woman's?"

"No, a fetus is innocent. I would grant it *greater* protection."

Tia and Saul sat dumbly for a moment before Saul found his voice. "That's the sunspot speaking. And I think it's time to delete it."

"Not yet," said Tia. "Let it speak."

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"Thank you, Tia," the proxy said with sober good humor. "In an effort to sidestep the issue of abortion, an issue this nation hasn't been able to resolve in seventy years of acrimonious debate, we intend to store fetuses indefinitely in vaults, in the same vaults—I might add—that the Department of Agriculture once used to stockpile surplus cheese. We say that someday we'll send these fetuses to colonize the stars. What hogwash! You know as well as I that our babies will never leave those vaults. They'll lie there by the millions like so much toxic waste. That, to my mind, is the same as abortion outright, and to a Christian—an abomination!"

Saul was breathless. If he hadn't pulled the proxy when he did, this is how it would have fielded questions. "You truly are defective," he said. "I'm neither antiabortion nor Christian. I'm an atheist."

"How can you be so sure?" said the proxy. "When was the last time you checked?"

Saul turned to Tia. "You know I've always vigorously supported women's rights. Look at my senate record. I was endorsed for the vice presidency by NOW, for crissake."

"Hush," Tia said and placed a finger on his lips. "I know you're a good man, Saul, but maybe you've changed. People change."

The car came to a halt in a highly secure depot deep beneath the Capitol complex. Pneumatic doors whooshed open to reveal Jackson waiting on the platform. If Jackson was surprised to see Tia, he didn't show it. He escorted them and their Secret Service detail up privileged lifts and along press-proof corridors. The voting had not yet begun, he explained. With so many senators deciding at the last moment to vote in realbody, the session had been delayed. Jackson led them to temporary headquarters in Alaska Senator Lonny Sota's suite. Sota and a dozen other senators—Republicans, Centrists, and Democrats—together with a legion of aides, had congregated there to await the call to order.

Saul paused in the hall and looked into the crowded suite. There was excitement there, energy not communicated via proxy. He opened his satchel, removed a paper bag of home-smoked salmon, and entered the room. "Someone order takeout?" he said, holding aloft the grease-stained bag. Senators surrounded him, slapping him on the back and shaking his hand. He had not known until this moment how much he missed the old realbody camaraderie.

Sota's staff quickly laid out crackers, napkins, and plates. Sota held the greasy bag himself until a suitable tablecloth could be found to protect his eighteenth century sideboard. The room was dominated by a large central hologram shaped like a fishbowl. It projected live coverage of a riot raging right outside the Capitol building. The view was from a satellite or high drone, and from that vantage the millions of protesters looked like some monster amoeba overwhelming hundreds of city blocks, from the National Zoo to the Potomac.

A hush fell over the room, and Saul turned to see President Taksayer and her chief of staff stroll through the door amid an escort of burly Secret Service men. "I heard there was a party," she said with her trademark panache. Senator Sota recovered from his surprise and hurried over to greet his latest guests.

The president worked the room, lingering with two recalcitrant Centrists who had publicly sided with the anti-ban Republicans. When finally she greeted Saul, she said, "Saul, Saul, is it really you?" She reached out with a finger to touch him, and he laughed. Although they conferred daily via holo or proxy, he had not been in her realbody presence—had not touched her—

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since their waltz at an inaugural ball. She seemed fresher, younger. Two years of crisis and compromise had agreed with her. She said, "It's a wonder we were able to entice you away from your vegetables."

"Entice?" he replied. "More like prod. In any case, my presence in DC is nowhere so remarkable as yours on the Hill during a senate vote, Ms. President. Let us just hope you don't jinx the process."

"If I do, I'll have to move into your igloo, now won't I?" she said, looking curiously at Tia, and adding, "if there's room."

"Ms. President," Saul said, introducing the two women, "Tia Krebbs. Ms. Krebbs, President Taksayer."

"Please call me Sally," said the president.

The room announced the call to order, and the suite quickly emptied as senators and their staff dutifully departed. In the newly deserted room, a pair of men stood out from the Secret Service agents. They did not flinch from Saul's attention and, in fact, brazenly returned his stare. Obviously, they were not aides. But since neither the president nor her chief of staff found their presence out of the ordinary, Saul ignored them. "I wonder if this holo could be switched to the chamber?" the president said, and immediately the mayhem on the Mall was replaced by the chaos in the chamber. The Senate Chamber, a mausoleum used chiefly as electronic backdrop, was today filling with flesh-and-blood senators who had not graced it in realbody since their swearing-in ceremonies and who thus required ushers, of whom there were too few, to escort them to their assigned seats. After much commotion, the president pro tempore called the session to order. The holo showed a tally board that read "Yeas: 0, Nays: 0," as well as close-ups of the podium and individual senators. Old Senator Hagerbarger could be seen at his seat, bent over a data tablet, serenely oblivious to his surroundings.

Saul, watching the holo next to the president, had a niggling suspicion that he was the cause for her presence here and the serious breach of protocol it represented. Jackson caught his attention from the other side of the room.

"Yes, what is it?" he said, going over to him.

"We have a problem, sir. Another proxy flipped."

"What? Where?"

"You're giving the keynote speech to the International Library and Catalog Convention in Toronto."

"Project it here," Saul said, pointing to the sideboard that was littered with cracker crumbs and salmon bones.

Jackson glanced at the others in the room. "Here, sir?"

"You're right," Saul said and led Jackson to the inner suite. "We'll use Sota's office."

Jackson projected a diorama of an auditorium on the polished surface of the senator's desk. Hundreds of tiny librarians shifted nervously in their seats. Saul's proxy, wearing this week's burgundy bowtie, floated above the lectern and harangued them with uncharacteristic zeal.

"Truth #10," it shouted. "All persons of all races are racists. Those who deny this truth most strenuously are either fools or haven't yet figured out which race they belong to.

"Truth #11. Slavery is a universal fact-of-life. If you don't own one, you are one."

"What *is* this?" Saul asked.

"I don't know, sir. A lecture? A manifesto? Shall I pull the proxy?"

Saul hesitated. "Play it from the beginning."

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Jackson shuttled the holo back to the proxy's appearance on the stage. "Thank you," it said. "It's always a pleasure to visit Toronto, and I'm honored to address such an august gathering." It cleared its throat and began, "My talk today is entitled, 'The Thirteen Bitter Truths of Victimhood.' First I'll list them, and then I'll go back to discuss each of them in gory detail. Ladies and gentlemen, hold onto your seats.

"Truth #1. The Jews asked for it. Persons of all colors asked for it. Rape victims asked for it. Victims of every kind in every age asked for it."

The audience gasped as one, and the tiny proxy paused, leering like a lunatic. "Pretty self-evident, eh? Okay, here's Truth #2. Victimhood is money in a Swiss bank. It's brownie points in the celestial choir. It's a big, white, colonnaded house on the moral high ground."

"Shall I stop it, sir?" said Jackson, but Saul raised a hand.

"Truth #3. All victim groups—if they survive—will leap at the chance to victimize others, and not necessarily their former oppressors, often others in their own group. The moral high ground makes an excellent staging area for tyranny."

Saul allowed the proxy to finish its précis, and then switched the diorama back to realtime. The proxy was still at it, explaining to the members of the International Library Association how their own organization participated in cultural oppression by systematically defining normalcy through its very cataloging procedures. "Cal," Saul said at last, "pull this proxy immediately. Pull *all* my active proxies everywhere and turn them over to Jackson's system. Then put yourself into hibernation."

"Retrieving," said Calendar, "transferring, sleeping."

"Jackson, send a batch of your own proxies to cover for mine. Apologize where necessary on my behalf and explain that my office is under terrorist attack in an attempt to discredit and embarrass the Administration."

Jackson addressed his valet but paused to listen to something. "Ah, sir. The president disagrees."

"The president? How?"

"I guess they're monitoring you."

Saul strode out to the reception area. The Secret Service men were gone. The chief of staff was gone, as was Tia. The only people in the room were the two strange men and President Taksayer in huddled conference. The men hardly glanced at Saul as he approached, but broke their huddle and without a word escorted Jackson from the suite. The door clicked shut behind them. Saul was alone with the president.

"Saul, Saul, Saul," she said as she watched the senate holo. The voting had begun; the tally stood at 18 yeas to 14 nays. "I'm concerned about you."

"How long have you been eavesdropping?"

The president shrugged. "How long have you been a bigot?"

"*I am not . . .*" Saul said and lowered his voice. "I am not, nor have I ever been a bigot."

"I know, I know—sunspots. Cyber-terrorism. Conspiracies. Other people putting words in your mouth."

"Neither am I paranoid. My system has been compromised. Obviously." The president's attention seemed fixed on the holo. The senate vote was by outcry so that each senator must declare his or her vote to the whole witnessing world. Two more nay votes were tallied as Saul and the president watched. "Sally, my system has been contaminated whether you want to believe it or not. And I can prove it."

She looked at him. "Please do."

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"Loan me your valet."

"Excuse me?"

"You trust your own system, don't you? Let me use it to cast a fresh proxy of myself here and now. We'll question it. Put both our minds at ease."

It took the president only a moment to agree. "Mr. Bond, create a proxy simulation for the vice president at his command."

"Certainly, Madame President," said the president's valet. "I await his input."

Saul said, "Mr. Bond, cast me in ten seconds." He closed his eyes, took a deep, cleansing breath, and imagined he was alone in his teahouse, walking barefoot across the smooth wooden floorboards and looking out the bank of tall windows. It was hard to concentrate, but he imagined he looked out the windows toward the pink-tinged peaks of the Alaska Range. This was the view that would be blotted out in the next few months, and he couldn't help but picture a latticework of residential towers growing like giant celery stalks to the sky. Then his perspective changed, and he was high in one of the towers leaning out a window, looking down at his postage-stamp patch of land below. It was like looking down a dim airshaft. Saul shook his head to dispel the image and started over. He imagined bare feet on bare wooden floorboards, but the president nudged him.

He opened his eyes to a full-size, head-and-shoulder proxy of himself. It blinked, looked at each of them, surveyed the room. Saul said, "How are you?"

The proxy glanced at the vote tally board. "As well as can be expected, I suppose."

"Fine, then let's waste no time, proxy. If you were called upon to break a tie over the Procreation Ban, how would you vote?"

Without hesitation the proxy said, "I would vote yea for the ban."

"There. See? Crisis averted," Saul said. He felt relief and vindication.

The president eyed the proxy. "Not so fast, Saul. Proxy, please explain why you'd vote for the ban."

"Gladly. As a Gaiaist, I believe that if we don't limit our specioeffluvium, and I mean quick, the Mother will push us aside and do it for us. And her methods, believe you me, are none too gentle."

The president groaned, and Saul went pale. "But I'm not a Gaiaist!"

"How can you be so sure?" said the proxy. "Mother cherishes all her biomass, even you."

At this the president stifled a smile, and Saul glared at her. "I'm sorry, Saul," she said, "but that biohooey coming out of your mouth is positively comical."

"Look at me, Sally. I'm not laughing! Cal, delete this thing."

"Waking up," said his valet.

"No, Cal, stay asleep. *You,*" he said to the proxy, "answer me one thing. How can you claim to believe something *I* don't? How does that work?"

"I have no idea. I wouldn't think it possible. One of us must be in a delusional state."

"We don't have time for this," Saul said, waving his hand at the proxy. "Your Mr. Bond may delete it now." But the president was watching the senate holo again. A burst of applause had interrupted the vote. There was a close-up of Senator Hagerbarger reseating himself, a smirk visible under his ivory-colored mustache. He had apparently added some witticism to his vote. The tally read 30 yeas to 21 nays.

"Here's something I seem to know that you haven't figured out yet," Saul's proxy said to Saul. "The vote *will* end in a tie. As sure as sunbeams. It's an incidental chit in a larger deal. There's more to this compromise than meets

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the eye. And in the hallowed tradition of American politics you, the vice president, have been left out of the loop."

"Mr. Bond," said the president, "isolate the proxy. Send it to Fernandez for immediate etopsy. Then launch your backup and place yourself in protective quarantine."

"Right," said the valet. Saul's proxy disappeared. A few moments later, a new, female voice said, "Moneypenny here, Ms. President, at your disposal."

"If looks could kill," President Taksayer said to Saul. "Relax, Jaspersen. So what if there's a tie? That's not a conspiracy, just a simple case of a spineless Senate too squeamish to do its job. Nothing new about that. This bill is strong medicine that no one wants to swallow, though everyone agrees we must, even Hagerbarger and the staunchest old-time Bible thumpers." She paused a moment to weigh her words. "The Republicans are willing to give up only the fewest number of votes necessary to carry the ban. That involves a tie, naturally. Your vote will save one vulnerable old redneck his seat come next election cycle." She waved her hand as if to dismiss the whole affair. "Business as usual, nothing more."

"Fine," said Saul, "but what about the rest of it? My proxy said there was a larger deal."

"Your proxies have said a lot of crazy things. Am I to hold you to all of them?"

Saul swallowed his anger. "Who knows? Maybe I *am* a changed man. Maybe my vote is *not* in your pocket. Maybe you have another five minutes to win me over."

The president blinked as though slapped. "Dear Saul, at the risk of lecturing you, let me remind you how much rides on the passage of this bill. Please recall the arguments your own proxies put forth so elegantly last night. The boutique economy, remember? The Age of the Micro-Nation. Or were they misquoting you?"

"No, no," said Saul, "I still believe that."

"Good." The president thumped a finger on his chest. "Remember, Jaspersen, you're not some free agent; you're part of this Administration. I would never have let it come down to a tie if I'd suspected you'd turn on me. So what do I do with you? How can I trust you?" She turned away to consult with unseen staff via valet.

How can I trust myself? Saul thought. Just then the room summoned him to the chamber. The vote had resulted in a tie—59 to 59. He sighed and started for the door, but the president stepped in his way.

"Where are you going?"

"They're waiting for me."

"Let them wait."

"Look, Taksayer, no matter what's wrong with my proxies, I'm the same man I always was, and no matter what backroom deals you've cooked up, my own reasons for supporting the ban haven't changed." He fervently hoped this was true. "Now, if you'll excuse me, Ms. President, I have constitutional duties to discharge." He stepped around her. When he reached the door his hand trembled, and he wondered if the door would yield to him. It did, but the corridor was blocked by Secret Service men, a wall of brawny shoulders and impassive stares. Saul could see Tia and Jackson down the corridor, isolated by more Secret Service. The two strange advisors were gone.

"I don't suppose we could call this whole thing off?" President Taksayer said behind him. "Plead sudden illness or something? Moneypenny, how would the vote be settled if the vice president doesn't show up?"

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The president's valet responded, "Senate rules equate a tie with defeat."

The president cursed and placed a hand on Saul's shoulder to turn him around. She studied his eyes for a long moment. "Then you'd better go," she said at last. "Go break the tie. But when you stand on that podium, take a look around. You're a smart boy, Saul. You'll figure things out."

She nodded to her chief of staff, and the line of Secret Service opened to provide Saul passage. Emboldened, he made his way to Jackson and Tia and dismissed their guards. The agents stood their ground, however, until they received confirmation, and then left without a word. Tia was pale with fright. "Welcome to Washington," Saul said as reassuringly as he could. "Perhaps you'd care to watch from the gallery. Jackson, please escort Ms. Krebbs to the spectator gallery. And Jackson," he said quietly, "stay with her."

The corridors to the Senate Chamber were eerily deserted. His shoes slapped the marble floors. But no matter how slowly he managed to walk, each step brought him closer to voicing a decision he no longer believed in. They had lied to him. They had manipulated him and sabotaged his proxies. And the president of the United States of North America had almost disappeared him.

A scary thought stopped Saul in his tracks. *What if I am paranoid? What if I am going mad?* Was it possible to go mad but be too busy to notice? He didn't think so, but he was no expert in the field and would have liked to cast an army of proxies on the spot to go out and research it and report back to him before he reached the chamber doors. But his proxies were gone, perhaps forever. And how could he ever trust Cal again? No, he was on his own now, completely on his own. "God help me," he groaned. *Was that a prayer? Did I just pray?*

Saul entered the Senate Chamber to polite applause, strode purposefully down the aisle, climbed the podium, and turned to face senators, spectators, and the holoeyes of the world. The presiding officer introduced him. Saul cleared his throat and said, "Thank you, Mr. Johnson, members of the Senate, and friends here and abroad." He cleared his throat once more. "As constitutional President of the Senate, I now assume leadership of this special session." Saul was stalling, and he knew it. "Thank you, Mr. Johnson—" he half-bowed to the presiding officer—"for handing me such a thankless task." Senators guffawed and shifted in their seats. "The time for debate and speeches has passed. The vote stands at fifty-nine to fifty-nine. It is now my duty to cast the deciding vote." Saul stopped speaking and tried to conceal his mounting panic—he no longer knew how he would vote. As the chamber grew silent with anticipation, another scary thought entered his head. *What if*—it chilled him even to think it—*What if I am a Christian? What if I'm being born-again right here in the Senate Chamber?* After all, what better venue than this could God want and what better servant than him, Saul Jaspersen, whose next spoken utterance might forever crush the dreams of a billion innocent people to bear and raise children?

Saul shut his eyes and prayed with fervor, *Please, if there is a God, oh please God, don't do this to me. Please postpone it an hour and do it in private.* But he knew that wasn't how it worked. God chose the place and time, and there was no ducking Him. He struck you with a bolt of lightning. He knocked you off your horse.

Behind him the presiding officer coughed, and Saul's eyes shot open. Everyone in the room was staring at him. He looked up and scanned the spectator gallery for Tia. He tried to remember what she was wearing but couldn't even recall its color. He felt dizzy. Blood pulsed in his ears. Faces swam before him, their eyes ballooning in alarm. *I must be fainting.* He

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clenched the lectern with both hands, forcing himself to breathe, and smiled bravely for all the world to see.

Someone smiled back. A strange young senator in the Republican section. Saul gaped at him, unable to comprehend what he saw. It was Texas Senator Erstwhile P. Hagerbarger—in the flesh. Not a proxy. Not a holo image. The real man. But he was young, younger than Saul, younger than when Saul had first met him. His mustache was a rich chestnut color. His face was smooth, meaty, and handsome. He sat with graceful ease. He radiated animal heat. *How can that be?*

Saul scrutinized the rows of senators. Most of them appeared younger than their proxies. Even President Taksayer, he recalled, had seemed so. He looked again at Hagerbarger. No legal longevity treatment could account for his transformation. No, he was clearly the beneficiary of nanorejuvenation.

The senator smiled at Saul and winked, and suddenly things started dropping into place. President Taksayer had spoken the truth: it *was* business as usual. Saul looked again at his former colleagues: Democrats, Centrists, and Republicans. Even those not personally rejuvenated had to be aware of it and thus gave their tacit approval. Who else was in on it? Certainly the media. In fact, any person of influence in the USNA with half a brain and the price of a ticket to a rejuvenation clinic in Tel Aviv or Bangkok. Probably half the people whose proxies his proxies interacted with every day. Saul knew then he had been a fool with his head buried in garden dirt.

Of course there had to be more to it than the simple exercise of privilege. He could see now why the Procreation Ban was so important to them. Neither the Administration nor Congress had any intention whatsoever of approving nanorejuvenation in the USNA. No, they planned to attack overpopulation from both ends of the life cycle at once. People of little means, people who could ill afford to spend weeks each year in exclusive foreign clinics, would still die—kicking and screaming—as they always had. But after today's vote there would be no new generations to replace them. Things would get pretty lonely at the bottom. For that matter, merely average citizens would inexorably slip away as well. North America, land of the few and the competent. What a neat Yankee solution to the population problem. And let the rest of the riffraff world trip all over itself trying to catch up.

Saul wiped a sleeve across his brow. Not a friendly place—the future—but if he was honest, was it so different from the future that he, himself, had toiled to create? He cleared his throat one last time. It was time to vote. "I vote . . ." he said, and the chamber grew silent enough to hear the planet creaking on its axis. *How do I vote?* He still didn't know. *Who am I?* This was often the better question. *Am I a hypocritical Christian? A closet bigot? A naïve pile of biomass?* According to his proxies these were his likely choices. Saul knew of only one method for choosing. He must cast himself. Not a proxy of himself, but his real self. So he willed himself to relax and imagined he stood in his little teahouse, his dear little teahouse. Sunbeams poured through the windows and warmed the wooden floor at his feet. As he watched, his bare feet grew pale, like roots, and burrowed deep into soft soil between garden rows of cabbages and kale. His cock, however, rose like a construction derrick and his testes hung like wrecking balls. Saul craned his neck and looked up at the towers all around him with their millions of windows and in each window a face, and he swung his hips from north to south and east to west and cut them down like so much straw. ". . . yea," he said at last. "I vote yea for the Procreation Ban, and yea for the future." ○

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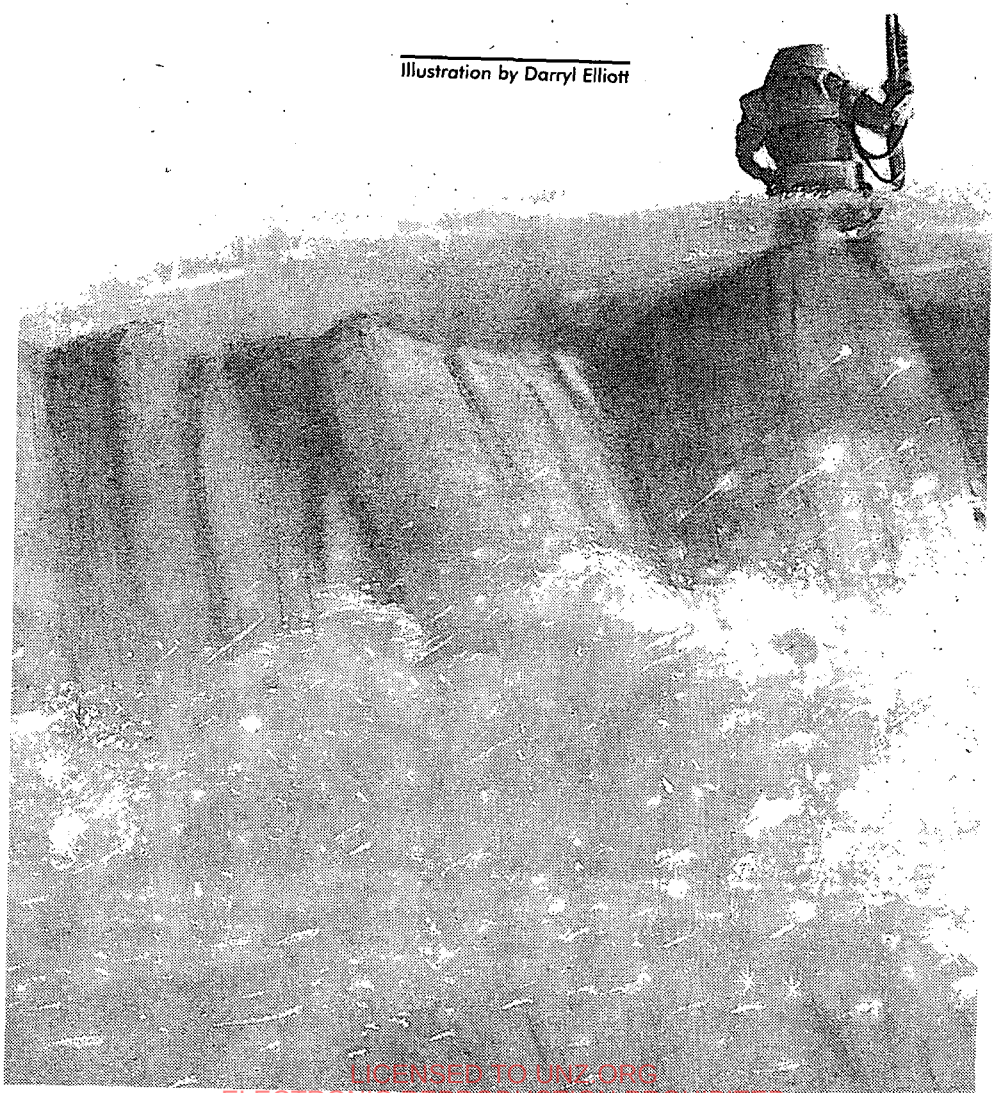
Robert Reed

Some decisions are as cold and as hard as diamonds—
especially when they come down to . . .

MAC AND ME

Illustration by Darryl Elliott



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1

The diamond sands are pure blue-white, blowing in the dry-baked wind. I'm easing my way down the long slope of the dune. More jewelry than air is around my knees, flowing like a river and hiding my bare feet. At my waist, the diamonds make a gnawing fog. Against my eyes, I feel the impacts of glittery grains. And it never ends, Mac says. He says there's diamond dust flying around in the jet stream, and that's why sunsets look like they do. He says that the creations are only digging deeper, turning more and more of our crust into diamond. When he's in a mood, he claims that we can't win. We're nothing but relics. Impurities. Temporary sacks of water and sugar selfishly fighting to keep our carbon for ourselves.

My temporary sack pulls up for a moment, swinging my little double-barrel back and forth, letting its laser sights hunt for pinhead nukes and gobs of wild creations.

Nothing.

Mac and Tatters are on my flanks, working down the dune with me. While Pinshaw and Lonkers are hanging back, trying to watch over us.

The crater's at the base of the dune, on the windward side. It's obvious and odd, its lips tall and black, like usual, but nothing coming from it. There's no fresh diamond being made. Or gas. Or anything.

I can't remember seeing any crater this fresh and this dead.

Mac lifts his human arm, giving me a signal. With that arm, he tells me, "Move." With his glaring face, he says, "Or else," and leaves it at that.

I start up again, wading through the hot sands.

Click goes something.

Click-click. Then *click* again.

A sloppy pile of dark bucktube rope lies against the crater wall. From twenty meters, I can see what's happening. Someone's hand is clinging to that rope. I can see a long exposed piece of wrist bone, white as can be, and whenever the dying hand feels its grip weakening, it flinches, and the bone hits the rope with a sharp *click.*

"Somebody's been here," I whisper, using a quiet frequency.

"But nobody's here now," Tatters says.

Mac says nothing. With a grace that any small man would want, he eases up to the crater, touching the silica glass with his machine hand, then the palm of his living one. The first hand looks for people hiding and any signs of creation activity. The other hand just likes the feel of something that isn't diamond.

"Clear," he whispers.

Tatters joins me, his double-barrel pointed at the sky.

Mac's big square face looks tired. Like always. But he smiles at us, at me, telling us, "Up and have a look. Go on."

Maybe the crater's dead and safe, but it still takes juice to make that climb. A working crater can leave a person's atoms strewn halfway across the world. That's what I'm trying not to think about when Tatters scrambles up. And pauses. From up top, our sharpshooter looks tiny and brave, holding his weapon as if nothing scares him. Ever. But his eyes are bright and big, staring down into the crater's throat while he says to me, "Come on, Cauze."

Mac gives my ass a shove.

I like that part fine.

The crater is ten meters across, but the throat is barely four. Whoever was here before us strung the ropes into a kind of scaffolding, and using them, we

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work our way down to the edge, clinging there and staring down into the darkness.

If it's normal, the hole reaches down a kilometer or so.

"They took it," says Tatters. "We got beat."

By whoever lost that hand, I'm thinking.

"The bastards," he says, halfway laughing. "I wonder if it was worth their trouble."

Creations are useful as weapons. Particularly the mutant ones.

Aiming my gun at the darkness. The lasers reach for a hundred meters, then lose their way when the throat twists.

Mac says, "Take a pulse."

The sonic dish is in my pack. Tatters pulls it out for me, and we unfold it and calibrate it and fire it. I hear the lowest part of the high scream and the high part of the low. Then, nothing. It's a matter of waiting for the pulse to find its way back to us. How deep did the creation reach? What's the matrix like? Limestone? Petroleum? Or something else? Did the creation build its fission cells before it failed? And most important, is there anything left down there that might be worth pulling up and taking home as salvage?

I know how long it takes a pulse to travel a kilometer down and back again.

When we should hear something, nothing happens.

Mac joins us. Joins me. He looks over the edge for himself, and just then the dish makes a *ping* sound.

"And?" says Tatters.

Mac downloads and looks at the readout sheet. "Something's wrong," he tells us. Then he looks in my direction, seeing nothing. "Again," he says. "Louder this time."

We boost the dish strength and fire.

Lonkers and Pinshaw are completing their patrol. Circling us, then stopping. It's Lonkers who says, "We've got tracks here." His voice is a little scrambled by the interference. "Floater tires," he whispers, pointing at things we can't see. "They're moving north. Eight of them, I count."

"How heavy's the cargo?" asks Mac.

"Two thousand kilos. At least."

Twice the size of most creations. At least.

Tatters shakes his head. He starts to say, "I don't like this—"

"Quiet," Mac warns him. Then the return signal arrives, and he studies the results until he's absolutely sure of something. What, I don't know. Then he sits on the edge of the throat and breathes, feet big enough for three men dangling.

He looks like a man ready to sit through the day.

"Move it sixty degrees around, then fire again," he tells us, his living hand rubbing at his red whiskers and his leathery gray-black face. With both hands, he peels open his ration bag, eating its contents dry. Then he unscrews his canteen and downs the day's condensation and scrubbed piss, three huge slow swallows leaving nothing to drink.

"Again," he says. "Move it sixty."

We work our way around the throat, getting looks from every angle. When I'm not working, I try to sit near Mac, my dangling feet bleeding from the morning's cuts.

Mac studies his readouts.

I try to eat. Just a mouthful of rations, sweet and dry and rich enough to

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make my stomach ache. Then I wash it down with two sips of water, recapping my canteen and stringing it on my pack, up where it'll catch the wind.

I can't see Lonkers, but I hear him. "Cauze," he asks, "have you ever heard of a creation that big?"

"Never," I admit.

"It looked normal enough when it came in," Lonkers tells us.

It came from the moon, judging by the fireball we saw. That's where most of them come from—thousand kilo babies blown out of the most active geysers.

"The crater looks ordinary enough," says Tatters. Meaning, "Shut up."

Lonkers says, "Cauze?"

I don't know what to tell him. All I can say is, "Wait for Mac."

Mac isn't talking. He just keeps staring at the growing picture in front of him, and when the final pulse is taken, he does nothing. Nothing changes about him. Nothing seems particularly wrong or right. But then he looks up, and for the first time in ages, his face isn't tired. A power shines in those open eyes, and his voice seems to come from some deep, secret place, suddenly booming, asking Lonkers, "When did that other team get here?"

"Maybe six days ago."

"And leave?"

"Less than two days."

Mac breathes, something like a smile building. "How many of them were there?"

"Eight," says our tracker.

That's when Mac leaps to his feet, telling us, "We're pulling out."

Tatters and I start stowing the dish. In a rush.

"Which way?" asks Mac.

Lonkers says, "North-northeast."

Pinshaw is standing high on the other dune. With a dry voice that sounds a little like shifting sands, he warns us, "There's a lot of subsidence in that north country. Big events, and little ones."

The crust sags and shatters where too many creations have been eating away at it, leaving nothing but holes to hold up the diamond dunes.

Mac says, "I don't care. Show us the way, Lonkers!"

Our tracker is a coward, which makes him good at his job. But he looks like a coward, staring at marks that nobody else can see, the diamond sands whipping around him as the wind picks up speed.

Mac and Tatters jump off the crater.

I follow them.

"Hurry," Mac prompts.

"Hurry," I mutter, making my legs run.

And that's when I notice the severed hand still lying there. It's still fighting to hold onto the rope, but maggots are eating its flesh parts, and steel worms are eating at the rest. Both kinds of grown flies are being born, and knowing a good thing, they stay where they started, eating and screwing, and laying their new eggs right next to the old.

2

Bombs are nothing.

The meanest-dog nuke does nothing worse than make things simple.

There's that big flash, sure. Then a fat bang, fire and dust. And maybe an

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unlucky city or country is destroyed. But that's all. Everything settles down afterward. Then the ash and rubble can start turning itself back into cities and people, and after a few decades, whether you want it or not, the world's pretty much where it started from.

But what creations do, and do very well, is make the simple into something else.

A thousand kilo creation holds a trillion trillion trillion nanochines. Each of those tiny bastards has its job. It moves an atom from here to there and sometimes back again. That's all. But working together, they build fission cells that power assembly lines that start churning out too many copies of them to count, and that's how they can saturate a mountain's worth of ordinary rock, getting ready for that moment when they do what gives them their name.

They create.

It's hard to believe, but Mac says there was a time, in the dimmest of dim pasts, when gemstones of every flavor were rare.

Like diamonds.

The first creations ate their way into thick beds of limestone. Limestone, after all, is nothing but carbon atoms locked in with calcium and oxygen. Tear free the carbon and stack it just so, and you've built a hard and cheap plaything. Riding in a wind enriched with oxygen, hot diamond dust and bricks came flying out of the ground in geysers. Then it was shoveled up and used for everything. Starships and skyscrapers. Houses and roads. Plus every sort of machine you can imagine, whether it was good for them or not. And clothing of every sort, right down to diamond dog collars.

Mac says that in those early days, people came out by the millions just to watch the geysers at work, and sometimes they filled up their pockets and buckets with the scrap grit and sand.

A whole crop of kids grew up playing in diamond sandpiles.

Sometimes nanochines were mixed with the grit, and one in a billion of them hadn't died like they promised to. Which was a problem. Kids playing in that sharp sand got little cuts, and some of those cuts were infected by the mutant strains. Between supper and bed, a kid could be chewed down to nothing but calcium and water, plus a few breaths of oxygen and a dirty little coat of diamond dust.

But that was only an occasional problem. Mac says that the wild bastards would have been handled, just like we handle them now.

Oxygen was another problem. Overnight, the earth's air got a little fresher, and fires burned a little brighter. So expensive new creations were put to work pulling the oxygen back out of the air, forcing it to rust against all those empty steel skyscrapers and the aluminum dogcollars that weren't being used anymore.

Then there was that business where some people, rich ones, set a tiny creation inside themselves, and it did nothing night and day but keep them healthy and young.

Eventually, everyone would have been able to afford such a thing.

The poor needed to be patient, says Mac.

Just like they needed to be patient when creations began making steak and bread, putting farmers across the world out of work. And when everything else was being made faster and cheaper and a thousand time better.

Once a day, Mac likes to tell us, "Every problem is wearing its solution. You just have to see it."

The trouble is that people were too busy to notice what things were wearing.

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People marched and governments fell, or the governments used their armies to keep themselves in power. Another week and things might have recovered. Mac says. But there were some little thinkers who were clever and vicious. They decided to destroy their enemies, real or imagined. Using industrial creations, they made quick-and-dirty weapons. All the usual safeguards were removed, including programmed senility. Then on a single bad day, a few capital cities and corporate headquarters were turned to diamond and other gemstones. Bad in itself, but not awful. If it had stopped there. If the creations had been done by people who knew what they were doing.

Without safeguards, the creations started replicating themselves, a single geyser becoming twenty more the next day.

It was carnage.

On the worst day, a billion people were turned to glittery stuff and rust and tiny thumbs of bone-white salt.

The survivors were those who used their own quick-and-dirties to build underground bunkers and cities. By month's end, the continents were covered with big geysers pumping out fresh diamonds, and the ocean floors weren't much better. Free oxygen was everywhere, and everything combustible was incinerated in one great fire. And afterward, only the lucky and strong were left, still hiding underground, using their own creations to keep themselves alive, and in a halfway sort of way, safe.

That was forever ago.

Five hundred years, nearly.

What I know for myself is the last fifty-three years. That's when I was put together out of spare atoms, then spilled out of my womb. The first sound I ever heard was the doctor's voice saying, "Congratulations. And welcome to the living."

I turned toward the voice on wobbly legs.

"First," she said, "you'll receive a week of simulated training. To sharpen your implanted instincts and your senses."

I nodded, focusing my new eyes.

"You've been reserved for our best team. Mackinaw Jones is the leader."

The doctor was standing behind three flavors of protective screens, all of them transparent. In most ways, she looked younger than me. Without leather for flesh, her body looked skinned. Her nose stuck out from her face, unable to close itself when the diamond grit was blowing hard. Her eyes looked wet and soft, ready to bleed with the first little cut. The only thing she was wearing were those transparent screens, pressing against them with her weak ugly little body. I found myself staring. Sick, nearly. Because she was ugly, and because she wanted my eyes staring at her ugliness.

"We call him Mac," she said.

There was something in her voice. Whenever she said his name, I heard it.

My first words were, "What do you call me?"

"You and your team leader will name you," she answered. "That's the tradition."

The wall beside my womb suddenly pulled itself into a doorway, flowing lights urging me to move down a narrow tunnel.

I took my first step.

"When you see Mac," I heard, "tell him that I said hello."

I nodded.

"Tell him how I looked. Will you?"

I started to run.

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3

We let our legs fold under us, and rest.

It's our third break since leaving the crater. Dawn's just getting started. Mac sits among us and asks for reports from all departments. "Tracking first."

Lonkers claims that we've halved the distance between us and the float-wagon. Then Tatters says that our weapons, as always, are fit and rested. Pinshaw sits next to me and talks about the lay of the land coming and what's changed since we last crossed this ground. "No fresh diamond deposits," he says, his voice sounding deep and dry like the sand. Then he winks at me, doing his usual awful job of flirting. "But the slumping's worse. One of these days, everything here is falling into a deep hole."

He's thinking about my deep holes.

Idiot.

Mac seems to smile in my direction, asking, "What's my strategic officer have to say?"

I give the same speech that I gave during the last two rests. "We're following them north-northeast. In the direction of Condor Bunker, or the Greens. The first city belongs to our Alliance. The other is a belligerent neutral. If they're Condors, we offer help. If they're Greens, and if they have something of value, we can take it from them. Or we insist on helping them, and maybe we slip something useful out of those good feelings."

Without listening, Mac hears me.

That's his way. He only seems not to be paying attention. His ears, flesh and otherwise, are always listening for the careless footfall, the dry spilling of sand, or a ragged breath and whispered curse. In fifty years, those various ears have saved me, and the team, at least a dozen times. No telling how many times they've saved him.

Mac reports last, telling us, "I've tried contacting Jasmine. To apprise and ask for instructions. But we're still getting interference."

This is a long ways from Jasmine, and our air is saturated with wild machines that try to talk to one another, every frequency filled with their buzzing little screams.

"We're on our own," says Mac, which is what he said last time. Except he puts on a different face now. A doubtful, almost worried look passes through him. Then for the first time I can remember, he says, "We can't fuck this up. Not this mission. It's got to be seen to the end."

When don't we do our jobs?

But I don't ask it. Instead, I offer up a possibility. "Maybe this is a special kind of creation," I say. "If so, we need to find out. And if it's too dangerous to keep, we've got to do what's necessary. For Jasmine, and everyone."

"Cook it, you mean," says Tatters.

I give a half-nod, thinking about the finger nukes in Tatters' pack.

"What did the sonics tell you?" I have to ask. "If you want my best opinion, I've got to know everything."

Now the big man stares past me. In the new sunshine, I make out flakes of black rations clinging to Mac's lips and the fire-colored stubble on his beard. Eyes brighter than any fire blaze at me. I've said something wrong. I know it instantly, and I brace myself for a dressing down. That's what he does when one of us is stupid. And amazingly, that's exactly what doesn't happen.

Instead, Mac rises to his feet, shouldering his double-barrel and beginning the day's march. Not another word or look from him.

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"Keep quiet next time," is Lonkers' advice.

Tatters points a long young finger at me, making a *swish-bang* sound.

"What did I say?" I ask them. "Just explain it to me."

But they don't have any idea, either.

Then Pinshaw stands in front of me, shaking his head. "I could have used some more rest," he admits. Then he says, "Beautiful," with a razored voice.

"What did I say?" I ask again.

But everyone's running, trying to catch up to Mac. I'm standing alone and talking to the glittery sands, telling them, "I don't understand."

Asking myself, "What was I doing so wrong?"

4

It was my third night with Mac and his team. They still called me Newgirl, which is who you are until you have a real name. From on top of a tall dune, Mac gave me a wave and shouted, "Up here, Newgirl. You ought to see this."

"See what, sir?" I asked.

"That."

The sunset was every color thrown into a fast-changing sky. But what he wanted to show me was Venus. The evening star was as high as she can climb, bluish-white and brilliant. Lovely, sure. But I didn't understand why everyone had to stare at her.

I asked, "Why are we doing this?"

Mac lifted a big flesh hand. "Just wait, Newgirl. Wait."

For a long while, nothing happened.

The sky darkened, and Venus was slipping lower. But then all at once, I realized that she was getting brighter.

There was a little flash of light, and I asked, "What's causing that?"

Mac explained that people once tried to make the world liveable. "They sent a single, self-replicating creation to turn carbon dioxide into diamonds and oxygen. Other creations were supposed to follow. Ones bringing hydrogen in from the ends of the solar system. But before we could build an ocean, the chaos started. There's nothing there now but one creation running wild."

Diamonds burn when they're immersed in pure oxygen.

All at once, it struck me that we were watching a world on fire.

"How did you know it would burn now?" I asked.

He said, "I didn't. I was guessing." Then he gave me a wink, adding, "The cycle's pretty reliable. There's always some dust-sized pieces of creation floating too high to burn up. They'll drop and start feeding on sunlight to do their work. Fifty-four days from now, the air's going to be too rich to last."

"What sets it off?" I asked.

"Anything. Lightning. A meteor. Static electricity, even."

"Fifty-four days," I repeated, wondering if I would get to live that long.

"In the early days," he added, "the cycle was shorter. But those creations keep mutating. Probably getting a little sloppy in their work."

"Maybe they'll turn into something else," I offered.

"In a million years, maybe." Mac had seen Venus burn plenty of times. He was looking at something different, which was me, and after a minute, he asked, "You sure like questions, don't you?"

"I like to know what causes things," I admitted.

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"Cauze," he called me. For the first time. Then he was laughing, saying, "It's a little sad, I think. Wasting a planet that way."

I looked at Tatters and the others. But nobody gave me a clue how to act.

"It would be nice," said Mac. Looking at me, weighing me with his eyes. "We go there someday and finish the work. Make that planet into a place where people can live."

"I don't know," I said.

"What don't you know, Cauze?"

I looked back at the sky, admitting, "I kind of like things this way."

5

The sun is high and hot when Lonkers announces, "Their wagon's feeling pain."

Sure enough, the float-tires are starting to slide backward on the steepest slopes. I can see where everyone had to pull and push. I'm no tracker, but I can count eight pairs of bare feet—small ones, I notice—fighting with the sand and each other, practically carrying the wagon over the crest and then running beside it as it picked up speed on the long windward slope.

I'm counting dunes, always.

We cross eleven more before Lonkers stops ahead of us, kneeling and putting his tongue to the tracks. It's late afternoon. The dropping sun lets the air start to cool. I'm waiting with the others, watching Lonkers and the sand and the hard dark blue of the sky. Then he creeps back to us, saying, "They're camped up ahead of us."

"Did you taste that?"

"No," he admits, smiling at us. "I could hear them talking."

Mac just nods, saying nothing.

To cut the silence, Tatters asks, "What did you hear?"

"They're trying to grow a new wagon now." Lonkers keeps smiling, glad to be the center of attention. "Their old one isn't big enough."

They built their first one two days ago, I'm thinking.

Mac looks at me, then the others. One hand runs through his rust-colored hair, and he tells us, "Fan out. Full e-flage. Let's get our look."

Our uniforms and e-flage help us blend into the sand. On knees and elbows, we crawl up to where we can peer over the crumbly edge, faces in the wind, looking down into the flat ground between dunes. A patch of dead timber stands in the thinnest sands. Squinting, I can make out the old wagon. A tarp lays over its bulky cargo. Two people are standing beside it. Five others are cutting down the dead tree trunks. Their uniforms show little condors above the heart, which makes them friends. But what worries me is the missing Condor. If there's a sentry, I can't find him. If he's walked on ahead, we damn well need to know.

The sun dips, dies.

Mac waves us back down, and without looking at anyone, says, "This is the plan."

We sit and wait.

Again, he pulls his hand through his hair. I can't see the color of it anymore, except in my mind. But I can see the lines of his face, the little crags and wrinkles. The moon is coming up. Nearly full, it looks smooth and bright, its old surface buried under twenty klicks of fresh diamond. In its light, I can

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see the seriousness hanging on Mac. He's not scared, exactly. But the face is as close to scared as I've ever seen it.

"Lonkers," he says. "And Cauze."

Both of us say, "What, Mac?"

"We were ambushed. You're the only two survivors, and you're going to stumble into their camp."

Lonkers says, "They won't believe us."

"I know this team's leader," Mac replies. "You're right, but he's a polite boy. He's going to act like he believes you, which'll give you some time."

"Then what'll he do?" says Lonkers.

Mac turns to me. "Find out if they've contacted Condor, and if help's coming. And if you can, pull off that tarp. I want to see that creation for myself."

He knows what it is, or thinks he does.

But every time I realize it, I'm surprised. When in my life has Mac ever kept secrets from us?

Lonkers fidgets, wondering aloud, "Why don't we just shadow them?"

Once more, Mac's hair gets the finger comb. Then he tips his head back and exhales, a tired voice saying, "Quit worrying. We'll be watching over you."

"Oh, sure," says Lonkers.

Finally, the tough smile shows itself. "Learn everything you can," he says. "Then one of you will need to take a piss. And that's when we'll hit them."

"Hit them," Tatters echoes. Allies or not, he's happy with that promise.

I don't say one word. I just sit in that cooling sand, in the moonlight, wondering why I feel so very strange.

6

One of my first patrols ended well enough. We were coming home when we intercepted a full platoon of Slashers. They'd already ghosted their way through most of Jasmine's defensive nets. But in about two seconds, without a squeak to our generals, Mac set up an ambush. The Slashers were bringing in a couple nukes, plus a revamped creation—an ugly little model that could eat through bunker armor. But seven of us hit them by surprise. Thirty-two Slashers were killed, including twenty-seven who would stay dead. Then we dragged home everything of value, and in thanks, we were let into the clean rooms for a full check-up, our good nanochines revitalized, our bodies purged of the bad.

This was before Lonkers and Pinshaw.

Besides Mac, the oldest one of us was an orange-faced, gold-chested cyborg named Mr. Hurricane. He was stretched out on the table next to mine, and floating in a slurry of happy drugs, he said, "Look at those two! Look!"

Mac and our doctor were in the backmost corner of the clean room.

It was the same woman who'd watched over my birth. She was still wearing triple screens, keeping her and Jasmine safe from contamination. Yet even with the screens, she was managing to ride parts of Mac, the pressure of his parts keeping her happy.

It was sick to see.

But I had my orders, and I watched.

"How old?" asked Mr. Hurricane. "Guess an age."

"Five hundred and some," I replied.

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"Who is?"

I said, "Her. The doctor."

"Look at me," said Mr. Hurricane. "I'm an old derelict. Seventy-seven years in the field, nearly. Can you believe it?"

"No, sir," I lied. "I can't."

"Is it fair?" he asked. "If our enemies don't kill me, erosion and machine diseases will. And that eternal child over there is stuck underground. Never growing older. Never changing. Is that fair?"

"It isn't," I guessed.

"You're a smart one, Cauze!" The cyborg rose up, bursting each of the restraining straps. "I've seen the sky! I've drunk living blood! I've killed my enemies, and I've buried my friends!"

"Yes, sir."

"As rich a life as any! And it breaks my hearts, seeing how impoverished she is. . . !"

I craned my neck, again watching the lovers having their fun.

"But you know, Cauze," the cyborg said to me. "I wasn't asking about her age. . . ."

"Excuse me, sir?"

A cloudy eye winked my way. "You guessed his age, too."

"Mac's?"

The man giggled.

"He's five centuries old?" I blubbered.

Leaning close, with breath stinking of medicines and medical grease, he said, "That little doctor? She happens to be his wife."

7

They know we're coming. We leave our e-flage turned down, and we march up between the dunes, heading straight at them. But just to be sure nobody's surprised, I call out, "Hello," with a big, dry-mouthed voice.

Lonkers thinks that's a good idea. He shouts, "Hello," and nervously giggles when the sound of his voice bounces back at him.

A second voice follows after his. "Walk on into the light, friends!"

Isn't that what the dying hear?

"I'm lost," Lonkers tells the voice. "We both are. Slashers hits us three days ago!"

The dead trees have been stripped of their branches and broken off up high, the wood slick and shiny from all that grinding sand. But the wood exists because of the sand. When wildfires were raging across the world, these trees must have been buried under the dunes. And while they were underground, some flavor of protective nanochine kept the diamond-makers from stealing their carbon. Just like it's doing now.

In the darkness, the old wood spits light and explodes to pieces.

"What are you doing out here?" asks the stranger's voice.

"We were hit by Slashers," says Lonkers, probably thinking that if he repeats it enough, somebody's going to believe him. "The rest of our team's ever-dead."

A small man appears. "You were lucky then."

"We sure were," Lonkers agrees.

A glance at our insignias. "Jasmines?"

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"At your mercy," I tell him.

The man's uniform is too large, and up close, its fabric looks tired, holes forming where it can't reweave itself anymore, and almost white where the pigments have given up the fight. A long sleeve lifts, and a tiny partial hand reaches from the sleeve. A thumb and two fingers squeeze my hand. If this is replacing the hand I found yesterday, then it's taking too long to grow. That's what I'm thinking when I say, "My name is Cauze."

"And mine's Effect," says Lonkers.

I don't put my eyes on my partner. It takes work, but I keep them straight ahead, telling our new friend, "We saw your fire."

"From a long ways, I bet." With his bad hand, he fingers his Condor wings, never offering us any name. Real, or otherwise.

There's still enough oxygen in this air to make the wood close to explosive. With the fire roaring, most of the Condors do nothing but cut down trees and feed that fat blaze. The one exception is a second little man, and he's standing in the distance, watching the dunes with lasers and eyes.

The first man says, "Friends shouldn't walk around camp with guns out."

I set my double-barrel against a tree trunk.

Lonkers starts to do the same, then stops himself, smiles and asks, "So why the fire? You don't like being cold at night?"

The little man smiles back at us. "Want to see why?"

Lonkers puts down his weapon. "Sure."

From the other long sleeve comes a tiny double-barrel held by a normal hand. The little man shows it to us, only as a reminder. Then it vanishes again, and he says, "Over here. You really need to see this thing."

Three small men and two smaller women are struggling with a fresh log. The bonfire is huge, hot and brilliant, and loud. But I can't smell it. Even when I pass by, I can't smell more than a hint of warm ash.

Which isn't a fat surprise.

The smoke lifts, then bends, moving the same way we're moving, heading toward the float-wagon and whatever's under that tarp.

"What is this?" asks Lonkers.

From somewhere behind us, the little man asks, "What do you think it is?"

Nothing here is a surprise. The creation is working, pulling in useful atoms from all sides. I already guessed that much. That's why it grew too heavy for the wagon. That's why these people are shrinking. And that's why they're building this fire. Smoke is the fastest way to put tons of organics in easy reach of that creation. Better the wood than them, is probably what they're thinking.

And yet, everything surprises me.

Edges of the creation are poking out from under the tarp. It looks black and shiny, which is normal enough. But instead of being shaped like a lozenge or a ball, this creation has weird shapes that start looking familiar the closer we get.

"It's a creation!" Lonkers screams.

The voice behind us says, "You're wrong."

I glance over my shoulder. The little man is keeping his distance, watching us. "Isn't it a creation?" I ask.

"No," he says, "it's *the* creation."

"What do you mean?" I ask.

Then with a big voice, Lonkers says, "You know, I've really got to take a piss."

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"It means," says our host, "that the Condor Bunker has finally won the war. Everyone else is going to have to be our friend now."

Lonkers pulls at his trousers.

"Stop that," I tell him.

"But it's time," he mutters. "Please, Cauze—!"

"Let him pee," the little man advises. Then he aims his gun at me, at that point near the heart where maintenance creations are usually embedded.

"What do you mean?" I ask. "*The creation—?*"

He intends to tell me. He wants to have that fun before killing me. But when he opens his shrinking mouth, a hypervelocity round explodes out of it.

His better hand flinches, and the gun fires.

And for a little while, I am dead.

8

Mac has died three times in my arms.

But only the second death was truly dangerous. Half a dozen hypervelocity rounds had broken his bones and shredded every gram of flesh. But worst by far were a pair of Slasher kill rounds that slipped their way into his maintenance creation. Together, they kept him from recovering. They kept him deep in a coma that just kept getting deeper. And worst of all, everyone but Tatters and me were just as badly hurt. It was us standing over four mutilated bodies, and after looking at Mr. Hurricane for the last time, I said, "We're taking Mac home. The rest have got to wait."

It was work, dragging the big man.

Ten steps, then pause.

Then pick off the maggots and take ten more steps, and pause.

Better than a week was spent getting close enough to home to make radio contact, then another full day before Jasmine could build a fresh ten planes and fly to us. Four planes got through sand storms and unfriendly fire. We boarded one, and it just happened that we picked the only machine to make it home again. Then I dragged Mac's shattered, rotting corpse into the clean room, and twenty doctors, including his wife, worked on the ruins, bringing him back from the brink, then losing him, then after telling me that he was lost, bringing him back again despite themselves.

Everyone was left crying, out of joy and exhaustion.

Still wearing a doctor's bone-colored smock, his wife moved close to me, stretching the triple screens with one hand. I felt her fingers, her warm palm. Then she pulled back, saying in a whisper, "Thank you for bringing him home to me."

"Thank you for saving him," I replied.

The words "for me" reached my throat and no farther.

Then I pushed against the screens, my fingers finding her leatherless face. I felt her heat, her bones. Why was that chin and jaw so familiar to my hand? And the narrow forehead? And those wet little smiling eyes?

"How can Mac be your husband?" I heard myself ask.

"He lived down here, in Jasmine." The smile brightened, then she added, "And before that, we lived up on the surface. Together."

I had guessed as much.

"But I can't see why," I admitted. Pulling back my hand, I placed it on my own face. "Why would he leave Jasmine?"

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"Someone had to." The smile changed, but it was always a smile. "We had more enemies back then. And fewer resources to go around. We didn't know yet how to make people like you from scratch. If we were going to defend ourselves and grow, some of us had to make the sacrifice. And Mac, as you can guess, had to be one of the noble ones."

I nodded, thinking hard.

Then, hoping to scare her, I said, "You know, I love him."

But all his wife could do was smile, her eyes looking past me, her soft voice saying to one of us, "As if you have any choice."

9

I wake from death to find Lonkers laid out on my right, and Pinshaw on my left. Both were killed in the fight. Both are healing now. Little twitches and big farts mean they'll be awake in a while, and healthy in a few days. Compared to them, my body's rested. Is ready. I sit up too fast, and when the earth stops tilting back and forth, I manage to climb to my feet.

The Condors are piled up next to the creation.

It looks like dawn.

Tatters sits near the dying fire, eating rations from someone else's bag and watching me take a sloppy first step. Guessing my first question, he says, "Less than one night."

How long was I dead?

I start to turn in circles, squinting between the barren trees.

"He's over by that damned creation," says Tatters. "On the other side of the wagon. And you can't reason with the fool. So don't."

I walk toward the crushed wagon. There's less of Mac now, I notice. Not much, but after so many years of watching him, I can tell. He's pulled the tarp off the creation, and he stares at it even when he says, "How are you?"

"Weak," I admit.

"I'm sending Tatters," he says. He still won't look at me. He can't. "To tell Jasmine everything. Afterward."

"After what?" I ask.

"Pinshaw thinks that we're over a big cavern system. A couple finger nukes on the other sides of these dunes, and we can drop this beauty deep into the crust."

It is beautiful, I realize.

Creations can be any shape. It doesn't matter which, since what they're made of is more important than how they look. But someone took the trouble to shape a creation that looks like a person. A curled up, big-headed person lying on his side, the eyes shut up tight. With some kind of twisted rope coming out of their belly.

Mac looks at me, finally.

"It'll be safe down there," he promises. As if I should care.

I step closer, but not close. "What is this thing?" I ask.

He doesn't react.

I admit, "It's scaring me."

"Don't let it," says Mac. Then he touches the creation's nose with his living hand, his flesh quivering until he pulls it away, making a fist and measuring it with his eyes. "The baby's getting stronger, Cauze."

Again, I ask, "What is this thing?"

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"During the chaos," Mac says, "there was a slam-bam project. Very secret, and very strange. The best scientists were put in their own deep bunker. They were given the best equipment but not enough time. Someone attacked their bunker. Slashers. Condors. Maybe it was a Jasmine team. Nobody knows."

I nod, waiting.

"For centuries, there's been a legend floating around. It says those geniuses made a special creation. More powerful and more complex than every other creation made. They were going to launch it the day they were attacked. But they didn't get the chance. Instead, this baby was shoved into a camouflaged chamber, suspended inside a vat of liquid argon. A cold womb, and inert. And until the other day, lost."

I reach for the nose, then hesitate.

With the softest whisper, I ask, "So what's it going to do?"

"After it gathers enough energy and resources?" The face is happier than I've ever seen it. "Simple, Cauze. It just going make the world over again. Pole to pole, and clear to the core."

As if burned, my hand jerks away.

"It's beyond nanochines," he promises me. And himself, maybe. "Legend has it that it uses even tinier machines—machines made out of atomic particles and pure energy—that can't mutate or make mistakes. Which is why those Condors thought they had something especially powerful."

"It'll make everything like it was?" I ask, my voice little and jumpy.

"Nothing does that," he warns. "But it'll kill off the little bastards inside us and everywhere else. That's this creation's only job. It'll finish them, and they won't be able to come back again. Ever."

Mac pauses for a moment, then winks. "And I bet you know what that means?"

"No more bunkers," I say. "No more fighting, maybe."

Suddenly Mac kisses the face in front of him.

Which isn't my face. If he did, he would notice how I was crying.

10

"You made me," I said to her one day. As if she didn't know what she had done, I told her, "Out of pieces of yourself, you made me."

"Of course I did," his wife said.

Then after a little while, she asked, "Do you understand why?"

I swallowed and wiped my crying face. "What you want is someone up there who cares about him. Who'll help watch over him all the time."

"That's why exactly, Cauze."

Then I shook my head, looking at her behind that triple screen.

"What is it, darling?" she asked.

"He doesn't see you in me." Admitting it, I felt as if I would die. "To Mac, I'm just another member of the team."

"I'm not an idiot, darling."

I stared at her, hard.

"You're me, except for the parts he loves."

I realized that I could fire a single hyper-round through those protective screens. Straight into her ugly smiling face, if I wanted. Or just through the screens, contaminating the room and her body, leaving her unable to go back

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into Jasmine ever again. But then I realized Mac wouldn't understand. Or worse, his wife would be forced to live on the surface with us, and that would make him happy, and he wouldn't stop telling me so.

11

Again, Tatters grumbles, "I can't reason with him."

I barely listen. Sitting with the sharpshooter, I open a ration bag and look inside. Then I close it and fold it and set it on the sparkling ground.

"Maybe it's this miracle machine," says Tatters. "Or maybe it won't work like those scientists hoped. Or worse, maybe it's something else entirely. Something worse even than what we've got already." He waits for a moment, then asks, "Do you know what I mean, Cauze? Do you?"

"Even worse," I echo.

"Yeah. Exactly."

So I look at Tatters, and after a moment, I ask, "Did you find that eighth Condor?"

"Never." He shakes his head. "They sent him ahead, we're guessing. To bring back all the help he can."

I say nothing.

"It won't come for days," he says. "In case you're worried."

"That's not what I'm thinking," I say.

"What are you thinking?"

I look over at the creation and Mac, then back at Tatters. "Want to see?"

"Yeah?"

I pick up my double-barrel, and, without letting myself blink or think another thought, I aim for the love of my life, and fire.

12

We drag Mac a little ways, then go back for the others. Later, when the others are strong enough, we let them walk themselves. But Tatters and I remain responsible for Mac. That's how we work for better than a day. Then we bed down in freshly dug holes, and the finger nukes go off behind us, then the world shakes as a few cubic klicks of rock and diamond tumble into the new deep hole.

We set up the finger nukes beside the creation.

At killing range, we hope.

I like things the way they are. With luck, nothing's left of that machine but a lot of spreading gas and radiation. People will look for it, we figure. And maybe they won't believe our story. But we practice it just the same. First to Lonkers, who believes it easily enough. Then Pinshaw, who spies a couple problems, and we have to quickly dance our way to a better story.

The eighth Condor took us by surprise, we tell them. Mac was killed right off. Then we heard a transmission from a Condor drone plane. Something about coming for the creation. Something about keeping it safe until they got there. Which is why Tatters and I had no choice but to run.

That we saved everyone is a little hard to explain. But not impossible. And we kept the creation from falling into Condor hands. If that machine was half what Mac says it was, then there wasn't any other choice but to destroy it.

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That's what I tell myself.

In the night, with the diamond moon rising over us, I whisper the story to the man I shot. I whisper it over and over again, beginning to believe it for myself. Then I stop telling it.

Instead, I look at the moon, remembering something incredible that Mac once told me.

On a night like this, he said, "Here's a funny fact you might enjoy, Cauze." He said, "People once made engagement rings decorated with diamonds."

The others made disbelieving sounds.

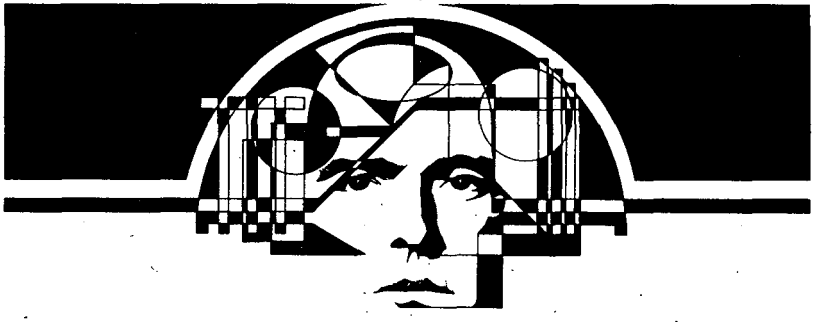
Lonkers asked, "What's an engagement ring, anyway?"

"It's what the man gives the woman," said Mac. "As a symbol of their love."

I lift up Mac's living hand, and, after carefully picking off a few maggots, I put my hand inside his and hold both up high, aligning them with the fabulous moon.

At just the right angle, it looks like I'm wearing that great diamond.

"Of course I will, dear," I say. "Yes, yes, oh, yes!" O



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Charles de Lint	January 12, 1999	@ 9:00 P.M. EST
Tim Powers	January 26, 1999	@ 9:00 P.M. EST

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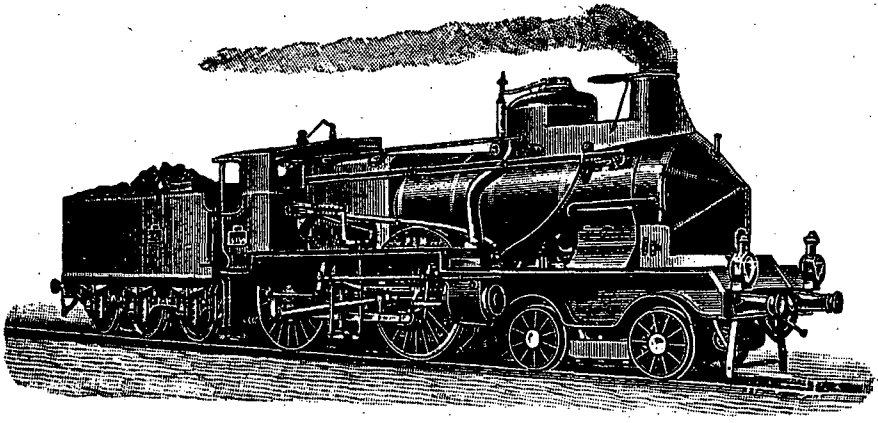
Michael Swanwick

ANCIENT ENGINES

How old is your car? What is the age of your blender, your TV, your computer? Can any of these devices outlast the average human's three score and ten? What would it take for a machine to achieve immortality?



"Planning to live forever, Tiktok?"

The words cut through the bar's chatter and gab and silenced them. The silence reached out to touch infinity, and then, "I believe you're talking to me?" a mech said.

The drunk laughed. "Ain't nobody else here sticking needles in his face, is there?"

The old man saw it all. He lightly touched the hand of the young woman sitting with him and said, "Watch."

Carefully, the mech set down his syringe alongside a bottle of liquid collagen on a square of velvet cloth. He disconnected himself from the recharger, laying the jack beside the syringe. When he looked up again, his face was still and hard. He looked like a young lion.

The drunk grinned sneeringly.

The bar was located just around the corner from the local stepping stage. It was a quiet retreat from the aggravations of the street, all brass and mirrors and wood paneling, as cozy and snug as the inside of a walnut. Light shifted

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lazily about the room, creating a varying emphasis, like clouds drifting overhead on a summer day, but far dimmer. The bar, the bottles behind the bar, and the shelves beneath the bottles behind the bar were all aggressively real. If there was anything virtual, it was set up high or far back, where it couldn't be touched. There was not a smart surface in the place.

"If that was a challenge," the mech said, "I'd be more than happy to meet you outside."

"Oh, noooooo," the drunk said, his expression putting the lie to his words. "I just saw you shooting up that goop into your face, oh so dainty, like an old lady pumping herself full of antioxidants. So I figured . . ." He weaved and put a hand down on a table to steady himself. ". . . figured you was hoping to live forever."

The girl looked questioningly at the old man. He held a finger to his lips.

"Well, you're right. You're—what? Fifty years old? Just beginning to grow old and decay. Pretty soon your teeth will rot and fall out and your hair will melt away and your face will fold up in a million wrinkles. Your hearing and your eyesight will go and you won't be able to remember the last time you got it up. You'll be lucky if you don't need diapers before the end. But *me*—" he drew a dram of fluid into his syringe and tapped the barrel to draw the bubbles to the top—"anything that fails, I'll simply have it replaced. So, yes, I'm planning to live forever. While you, well, I suppose you're planning to *die*. Soon, I hope."

The drunk's face twisted, and with an incoherent roar of rage, he attacked the mech.

In a motion too fast to be seen, the mech stood, seized the drunk, whirled him around, and lifted him above his head. One hand was closed around the man's throat so he couldn't speak. The other held both wrists tight behind the knees so that, struggle as he might, the drunk was helpless.

"I could snap your spine like *that*," he said coldly. "If I exerted myself, I could rupture every internal organ you've got. I'm two-point-eight times stronger than a flesh man, and three-point-five times faster. My reflexes are only slightly slower than the speed of light, and I've just had a tune-up. You could hardly have chosen a worse person to pick a fight with."

Then the drunk was flipped around and set back on his feet. He gasped for air.

"But since I'm also a merciful man, I'll simply ask nicely if you wouldn't rather leave." The mech spun the drunk around and gave him a gentle shove toward the door.

The man left at a stumbling run.

Everyone in the place—there were not many—had been watching. Now they remembered their drinks, and talk rose up to fill the room again. The bartender put something back under the bar and turned away.

Leaving his recharge incomplete, the mech folded up his lubrication kit and slipped it in a pocket. He swiped his hand over the credit swatch, and stood.

But as he was leaving, the old man swiveled around and said, "I heard you say you hope to live forever. Is that true?"

"Who doesn't?" the mech said curtly.

"Then sit down. Spend a few minutes out of the infinite swarm of centuries you've got ahead of you to humor an old man. What's so urgent that you can't spare the time?"

The mech hesitated. Then, as the young woman smiled at him, he sat.

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"Thank you. My name is—"

"I know who you are, Mr. Brandt. There's nothing wrong with my eidetics."

Brandt smiled. "That's why I like you guys. I don't have to be all the time reminding you of things." He gestured to the woman sitting opposite him. "My granddaughter." The light intensified where she sat, making her red hair blaze. She dimpled prettily.

"Jack." The young man drew up a chair. "Chimaera Navigator-Fuego, model number—"

"Please. I founded Chimaera. Do you think I wouldn't recognize one of my own children?"

Jack flushed. "What is it you want to talk about, Mr. Brandt?" His voice was audibly less hostile now, as synthetic counterhormones damped down his emotions.

"Immortality. I found your ambition most intriguing."

"What's to say? I take care of myself, I invest carefully, I buy all the upgrades. I see no reason why I shouldn't live forever." Defiantly. "I hope that doesn't offend you."

"No, no, of course not. Why should it? Some men hope to achieve immortality through their works and others through their children. What could give me more joy than to do both? But tell me—do you *really* expect to live forever?"

The mech said nothing.

"I remember an incident that happened to my late father-in-law, William Porter. He was a fine fellow, Bill was, and who remembers him anymore? Only me." The old man sighed. "He was a bit of a railroad buff, and one day he took a tour through a science museum that included a magnificent old steam locomotive. This was in the latter years of the last century. Well, he was listening admiringly to the guide extolling the virtues of this ancient engine when she mentioned its date of manufacture, and he realized that *he was older than it was.*" Brandt leaned forward. "This is the point where old Bill would laugh. But it's not really funny, is it?"

"No."

The granddaughter sat listening quietly, intently, eating little pretzels one by one from a bowl.

"How old are you, Jack?"

"Seven years."

"I'm eighty-three. How many machines do you know of that are as old as me? Eighty-three years old and still functioning?"

"I saw an automobile the other day," his granddaughter said. "A Dusenberg. It was red."

"How delightful. But it's not used for transportation anymore, is it? We have the stepping stages for that. I won an award once that had mounted on it a vacuum tube from Univac. That was the first real computer. Yet all its fame and historical importance couldn't keep it from the scrap-heap."

"Univac," said the young man, "couldn't act on its own behalf. If it *could,* perhaps it would be alive today."

"Parts wear out."

"New ones can be bought."

"Yes, as long as there's the market. But there are only so many machine people of your make and model. A lot of you have risky occupations. There are accidents, and with every accident, the consumer market dwindles."

"You can buy antique parts. You can have them made."

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"Yes, if you can afford them. And if not—?"

The young man fell silent.

"Son, you're not going to live *forever*. We've just established that. So now that you've admitted that you've got to die someday, you might as well admit that it's going to be sooner rather than later. Mechanical people are in their infancy. And nobody can upgrade a Model T into a stepping stage. Agreed?"

Jack dipped his head. "Yes."

"You knew it all along."

"Yes."

"That's why you behaved so badly toward that lush."

"Yes."

"I'm going to be brutal here, Jack—you probably won't live to be eighty-three. You don't have my advantages."

"Which are?"

"Good genes. I chose my ancestors well."

"Good genes," Jack said bitterly. "You received good genes, and what did *I* get in their place? What the hell did I get?"

"Molybdenum joints where stainless steel would do. Ruby chips instead of zirconium. A number 17 plastic seating for—hell, we did all right by you boys!"

"But it's not enough."

"No. It's not. It was only the best we could do."

"What's the solution, then?" the granddaughter asked, smiling.

"I'd advise taking the long view. That's what I've done."

"Poppycock," the mech said. "You were an extensionist when you were young. I input your autobiography. It seems to me you wanted immortality as much as I do."

"Oh, yes, I was a charter member of the life-extension movement. You can't imagine the crap we put into our bodies! But eventually I wised up. The problem is, information degrades each time a human cell replenishes itself. Death is inherent in flesh people. It seems to be written into the basic program—a way, perhaps, of keeping the universe from filling up with old people."

"And old ideas," his granddaughter said maliciously.

"Touché. I saw that life-extension was a failure. So I decided that my children would succeed where I failed. That *you* would succeed. And—"

"You failed."

"But I haven't stopped trying!" The old man thumped the table in unison with his last three words. "You've obviously given this some thought. Let's discuss what I *should* have done. What would it take to make a true immortal? What instructions should I have given your design team? Let's design a mechanical man who's got a shot at living forever."

Carefully, the mech said, "Well, the obvious to begin with. He ought to be able to buy new parts and upgrades as they come available. There should be ports and connectors that would make it easy to adjust to shifts in technology. He should be capable of surviving extremes of heat, cold, and moisture. And—" he waved a hand at his own face—"he shouldn't look so goddamned pretty."

"I think you look nice," the granddaughter said.

"Yes, but I'd like to be able to pass for flesh."

"So our hypothetical immortal should be one, infinitely upgradable; two, adaptable across a broad spectrum of conditions; and three, discreet. Anything else?"

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"I think she should be charming," the granddaughter said.

"She?" the mech asked.

"Why not?"

"That's actually not a bad point," the old man said. "The organism that survives evolutionary forces is the one that's best adapted to its environmental niche. The environmental niche people live in is man-made. The single most useful trait a survivor can have is probably the ability to get along easily with other men. Or, if you'd rather, women."

"Oh," said the granddaughter, "he doesn't like *women.* I can tell by his body language."

The young man flushed.

"Don't be offended," said the old man. "You should never be offended by the truth. As for you—" he turned to face his granddaughter—"if you don't learn to treat people better, I won't take you places anymore."

She dipped her head. "Sorry."

"Apology accepted. Let's get back to task, shall we? Our hypothetical immortal would be a lot like flesh women, in many ways. Self-regenerating. Able to grow her own replacement parts. She could take in pretty much anything as fuel. A little carbon, a little water . . ."

"Alcohol would be an excellent fuel," his granddaughter said.

"She'd have the ability to mimic the superficial effects of aging," the mech said. "Also, biological life evolves incrementally across generations. I'd want her to be able to evolve across upgrades."

"Fair enough. Only I'd do away with upgrades entirely, and give her total conscious control over her body. So she could change and evolve at will. She'll need that ability, if she's going to survive the collapse of civilization."

"The collapse of civilization? Do you think it likely?"

"In the long run? Of course. When you take the long view, it seems inevitable. Everything seems inevitable. Forever is a long time, remember. Time enough for absolutely *everything* to happen!"

For a moment, nobody spoke.

Then the old man slapped his hands together. "Well, we've created our New Eve. Now let's wind her up and let her go. She can expect to live—how long?"

"Forever," said the mech.

"Forever's a long time. Let's break it down into smaller units. In the year 2500, she'll be doing what?"

"Holding down a job," the granddaughter said. "Designing art molecules, maybe, or scripting recreational hallucinations. She'll be deeply involved in the culture. She'll have lots of friends she cares about passionately, and maybe a husband or wife or two."

"Who will grow old," the mech said, "or wear out. Who will die."

"She'll mourn them, and move on."

"The year 3500. The collapse of civilization," the old man said with gusto. "What will she do then?"

"She'll have made preparations, of course. If there is radiation or toxins in the environment, she'll have made her systems immune from their effects. And she'll make herself useful to the survivors. In the seeming of an old woman, she'll teach the healing arts. Now and then, she might drop a hint about this and that. She'll have a data base squirreled away somewhere containing everything they'll have lost. Slowly, she'll guide them back to civilization. But a gentler one, this time. One less likely to tear itself apart."

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"The year one million. Humanity evolves beyond anything we can currently imagine. How does *she* respond?"

"She mimics their evolution. No—she's been *shaping* their evolution! She wants a risk-free method of going to the stars, so she's been encouraging a type of being that would strongly desire such a thing. She isn't among the first to use it, though. She waits a few hundred generations for it to prove itself."

The mech, who had been listening in fascinated silence, now said, "Suppose that never happens? What if starflight will always remain difficult and perilous? What then?"

"It was once thought that people would never fly. So much that looks impossible becomes simple if you only wait."

"Four billion years. The sun uses up its hydrogen, its core collapses, helium fusion begins, and it balloons into a red giant. Earth is vaporized."

"Oh, she'll be somewhere else by then. That's easy."

"Five billion years. The Milky Way collides with the Andromeda Galaxy and the whole neighborhood is full of high-energy radiation and exploding stars."

"That's trickier. She's going to have to either prevent that or move a few million light years away to a friendlier galaxy. But she'll have time enough to prepare and to assemble the tools. I have faith that she'll prove equal to the task."

"One trillion years. The last stars gutter out. Only black holes remain."

"Black holes are a terrific source of energy. No problem."

"1.06 googol years."

"Googol?"

"That's ten raised to the hundredth power—one followed by a hundred zeros. The heat-death of the universe. How does she survive it?"

"She'll have seen it coming for a long time," the mech said. "When the last black holes dissolve, she'll have to do without a source of free energy. Maybe she could take and rewrite her personality into the physical constants of the dying universe. Would that be possible?"

"Oh, perhaps. But I really think that the lifetime of the universe is long enough for anyone," the granddaughter said. "Mustn't get greedy."

"Maybe so," the old man said thoughtfully. "Maybe so." Then, to the mech, "Well, there you have it: a glimpse into the future, and a brief biography of the first immortal, ending, alas, with her death. Now tell me. Knowing that you contributed something, however small, to that accomplishment—wouldn't that be enough?"

"No," Jack said. "No, it wouldn't."

Brandt made a face. "Well, you're young. Let me ask you this: Has it been a good life so far? All in all?"

"Not *that* good. Not good *enough*."

For a long moment, the old man was silent. Then, "Thank you," he said. "I valued our conversation." The interest went out of his eyes and he looked away.

Uncertainly, Jack looked at the granddaughter, who smiled and shrugged. "He's like that," she said apologetically. "He's old. His enthusiasms wax and wane with his chemical balances. I hope you don't mind."

"I see." The young man stood. Hesitantly, he made his way to the door.

At the door, he glanced back and saw the granddaughter tearing her linen napkin into little bits and eating the shreds, delicately washing them down with sips of wine. O

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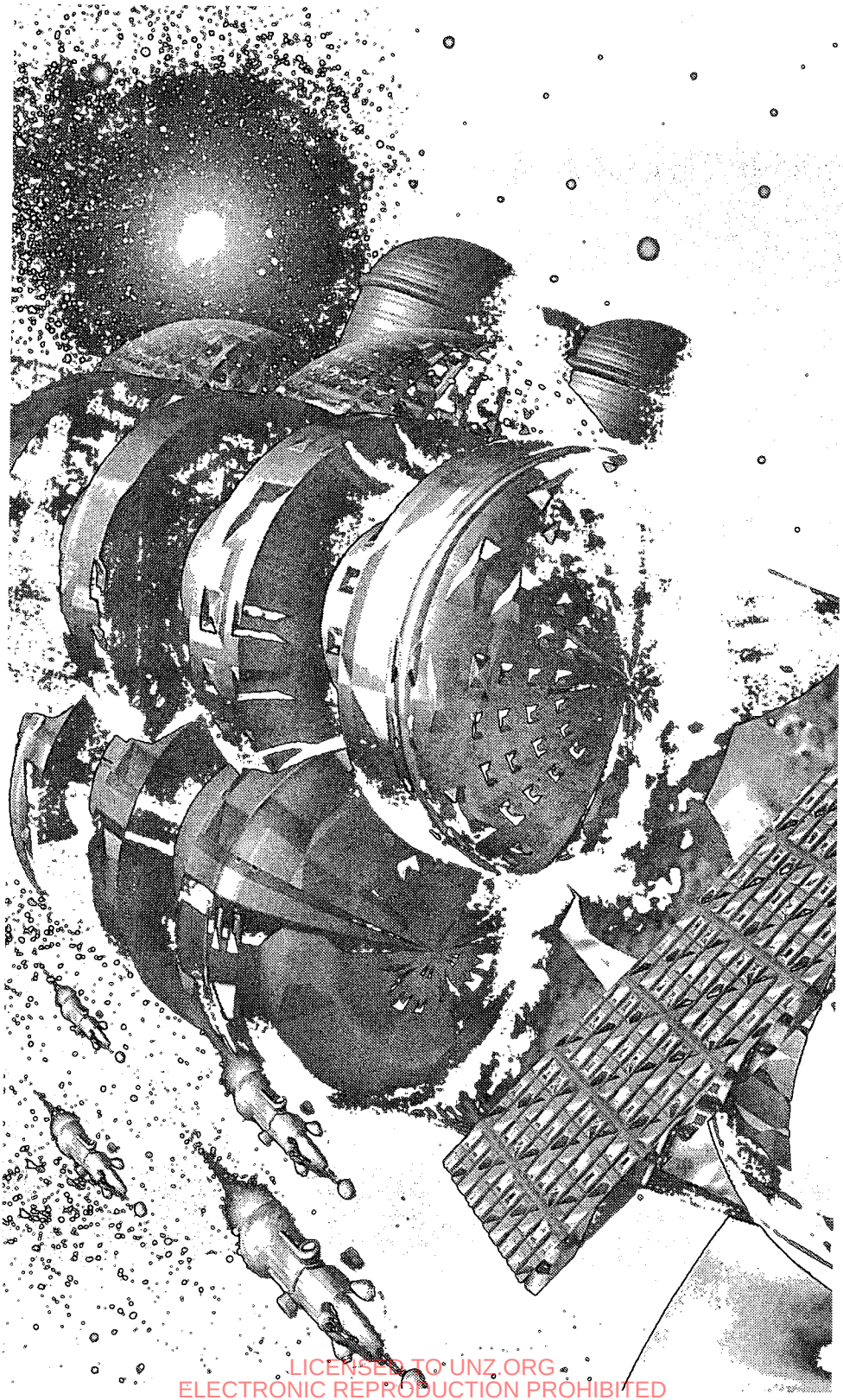

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Tom Purdom

FOSSIL GAMES

Tom Purdom sold his first story in 1957, just before he turned twenty-one. "Forty years ago, I was guy in my early twenties who sent stories off to editors and hoped somebody would buy them. Today, I'm a guy in my early sixties who sends stories off to editors and hopes somebody will buy them. With luck, I'll be a guy in my eighties who sends stories off to editors and hopes somebody will buy them." He's also a guy with his own website, **http://ourworld.compuserve.com/homepages/tompurdom**, whose recent activities include writing about Philadelphia for an online arts guide called CultureFinder.

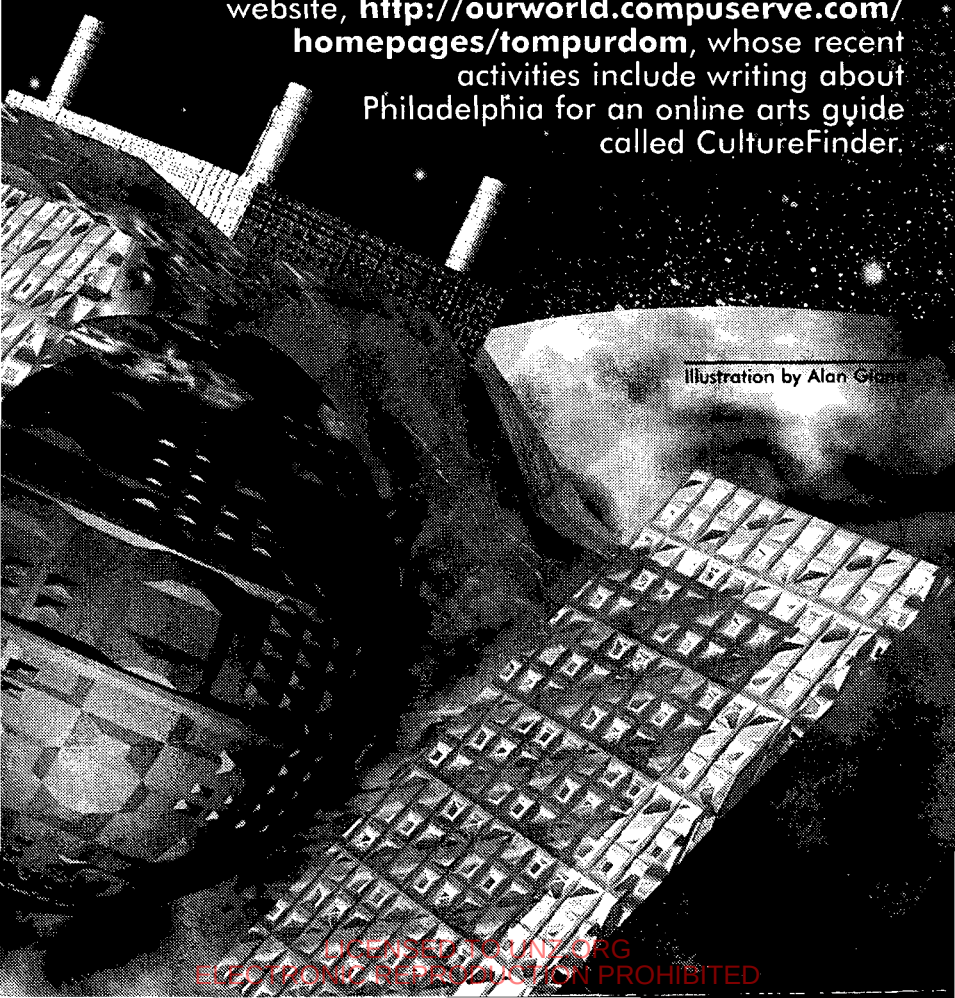

Illustration by Alan Gilbert

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Morgan's mother and father had given him a state-of-the-art inheritance. It was only state-of-the-art-2117 but they had seen where the world was going. They had mortgaged 20 percent of their future income so they could order a package that included all the genetic enhancements Morgan's chromosomes could absorb, along with two full decades of postnatal development programs. Morgan was in his fifties when his father committed suicide. By that time his father could barely communicate with half the people he encountered in his day to day business activities.

Morgan's mother survived by working as a low-level freelance prostitute. The medical technology that was state-of-the-art-2157 could eliminate all the relevant physical effects of aging and a hidden computer link could guide her responses. For half an hour—as long as no one demanded anything too unusual—she could give her younger customers the illusion they were interacting with someone who was their intellectual and psychological equal. Morgan tried to help her, but there wasn't much he could do. He had already decided he couldn't survive in a solar system in which half the human population had been born with brains, glands, and nervous systems that were state-of-the-art-2150 and later. He had blocked his mother's situation out of his memory and lived at subsistence level for almost three decades. Every yen, franc, and yuri he could scrape together had been shoved into the safest investments his management program could locate. Then he had taken all his hard-won capital and bought two hundred shares in an asteroid habitat a group of developers had outfitted with fusion reactors, plasma drives, solar sails, and anything else that might make a small island move at 9 percent the speed of light. And he and three thousand other "uncompetitive," "under-enhanced" humans had crept away from the solar system. And set off to explore the galaxy.

Morgan had lived through three lengthy pairings back in the solar system. Six years after the *Island of Adventure* had begun its slow drift away from the sun, he established a fourth pairing with a woman he had met through the ship's information system. The ship's designers had endowed it with attractive common spaces, complete with parks and cafes, but most of the passengers seemed to prefer electronic socialization during the first years of the voyage. Biographies and lists of interests were filed with the system. Pseudonyms and electronic personalities proliferated. Morgan thought of old stories in which prisoners had communicated by tapping on the walls of their cells.

Savela Insdotter was eleven years younger than Morgan but she was a fully committed member of the EruLabi communion. She used pharmaceutical mental enhancers, but she used them sparingly. Morgan consumed all the mental enhancers his system could accommodate, so his functional intelligence was actually somewhat higher than hers in certain areas.

The foundation of the EruLabi ethos was a revolt against genetic enhancement. In the view of the EruLabi "mentors," the endless quest for intellectual and physical improvement was a folly. Life was supposed to be lived for its own sake, the EruLabi texts declared. Every moment was a gift that should be treasured for the pleasure it brought, not an episode in a quest for mental and physical perfection. The simplest pleasures—touches, languor, the textures of bodies pressed together—were, to the EruLabi, some of the most profound experiences life had to offer.

One of the most important texts in the EruLabi rituals was the words, in

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ancient Greek, that the Eudoran king had spoken to Odysseus: *Dear to us ever are the banquet and the harp and the dance and the warm bath and changes of raiment and love and sleep.*

The *Island of Adventure* had pointed itself at 82 Eridani—a Sol-type star twenty-one light years from the solar system. Eighty-two Eridani was an obvious candidate for a life-bearing planet. A fly-by probe had been launched at the star in 2085—one hundred and eighteen years before Morgan and his fellow emigrants had left their home system. In 2304—just after they had celebrated the first century of their departure—the *Island of Adventure* intercepted a message the probe was sending back to the solar system.

It was the beginning of several years of gloomy debate. The probe had found planets. But none of them looked any more interesting than the cratered rocks and giant iceballs mankind had perused in the solar system.

The third planet from the sun could have been another Earth. It was closer to its sun than Earth was but it could have supported life if it had been the right size. Unfortunately, the planet's mass was only 38 percent the mass of Earth.

Theorists had calculated that a planet needed a mass about 40 percent the mass of Earth if it was going to develop an oxygen-rich atmosphere and hold it indefinitely. The third planet was apparently just a little too small. The images transmitted by the probe were drearily familiar—a rocky, airless desert, some grandiose canyons and volcanoes, and the usual assortment of craters, dunes, and minor geological features.

The *Island of Adventure* had set out for 82 Eridani because 82E was a star of the same mass and spectral type as Sol. The second choice had been another star in the same constellation. Rho Eridani was a double star 21.3 light years from the solar system. The two stars in the Rho system orbited each other at a promising distance—seven light hours. With that much separation between them, the theoreticians agreed, both stars could have planets.

When you looked at the sky from the solar system, Rho was a few degrees to the left of 82 Eridani. The *Island of Adventure* was a massive, underpowered rock but it could make a small midcourse correction if its inhabitants wanted to expend some extra reaction mass.

The strongest opposition to the course change came from the oldest human on the ship. Madame Dawne was so old she had actually been born on Earth. All the other people on board had been born (created, in most cases) in the habitats the human race had scattered across the solar system.

The *Island of Adventure* had been the first ship to embark for 82 Eridani. Thirty-two years after it had left the solar system, a ship called *Green Voyager* had pointed its rocky bow at Rho. The texts of its transmissions had indicated the oldest passengers on the *Green Voyager* were two decades younger than the youngest passengers on the *Island of Adventure.*

If the passengers on the *Island of Adventure* approved the course change, they would arrive at Rho about the same time the *Green Voyager* arrived there. They would find themselves sharing the same star system with humans who were, on average, three or four decades younger than they were. Madame Dawne would be confronted with brains and bodies that had been designed a full century after she had received her own biological equipment.

Morgan was not a politician by temperament but he was fascinated by any

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activity that combined conflict with intellectual effort. When his pairing with Savela Insdotter had finally come to an end, he had isolated himself in his apartment and spent a decade and a half studying the literature on the dynamics of small communities. The knowledge he had absorbed would probably look prehistoric to the people now living in the solar system. It had been stored in the databanks pre-2203. But it provided him with techniques that should produce the predicted results when they were applied to people who had reached adulthood several decades before 2200.

The *Island of Adventure* was managed, for all practical purposes, by its information system. A loosely organized committee monitored the system but there was no real government. The humans on board were passengers, the information system was the crew, and the communal issues that came up usually involved minor housekeeping procedures.

Now that a real issue had arisen, Morgan's fellow passengers drifted into a system of continuous polling—a system that had been the commonest form of political democracy when they had left the solar system. Advocates talked and lobbied. Arguments flowed through the electronic symposiums and the face-to-face social networks. Individuals registered their opinions—openly or anonymously—when they decided they were willing to commit themselves. At any moment you could call up the appropriate screen and see how the count looked.

The most vociferous support for the course change came from eight individuals. For most of the three thousand fifty-seven people who lived in the ship's apartments, the message from the probe was a minor development. The ship was their home—in the same way a hollowed out asteroid in the solar system could have been their home. The fact that their habitat would occasionally visit another star system added spice to the centuries that lay ahead, but it wasn't their primary interest in life. The Eight, on the other hand, seemed to feel they would be sentencing themselves to decades of futility if they agreed to visit a lifeless star system.

Morgan set up a content analysis program and had it monitor the traffic flowing through the public information system. Eighteen months after the message from the probe had triggered off the debate, he put a two-axis graph on the screen and examined a pair of curves.

Morgan's pairing with Savela Insdotter had lasted over sixty years and they had remained friendly after they had unpaired. He showed her the graph as soon as he had run it through some extra checks. The curve that charted the Eight's activities rose and fell in conjunction with the curve that measured Madame Dawne's participation in the debate. When Madame Dawne's activity level reached a peak, the Eight subsided into silence. They would stop agitating for their cause, the entire discussion would calm down, and Madame Dawne would return to the extreme privacy she had maintained from the beginning of the voyage. Then, when Madame Dawne hadn't been heard from for several tendays, the Eight would suddenly renew their campaign.

"I believe they're supporting the change to a new destination merely because they wish to disturb Madame Dawne," Morgan said. "I've created personality profiles based on their known histories and public statements. The profiles indicate my conjecture is correct."

Savela presented him with a shrug and a delicate, upward movement of her head. Morgan had spoken to her in Tych—an ultra-precise language that

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was primarily used in written communication. Savela was responding in an emotion-oriented language called VA13—a language that made extensive use of carefully rehearsed gestures and facial expressions.

No one, as far as Morgan knew, had ever spoken VA12 or VA14. The language had been labeled VA13 when it had been developed in a communications laboratory on Phobos, and the label had stuck.

"Madame Dawne is a laughable figure," Savela said.

"I recognize that. But the Eight are creating a serious division in our communal life. We might have reached a consensus by now if they hadn't restimulated the debate every time it seemed to be concluding. Madame Dawne is one of the eleven wealthiest individuals on the ship. What would happen to us if she decided she had to impose her will by force?"

"Do you really feel that's a serious possibility, Morgan?"

The linguists who had developed VA13 had been interested in the emotional content of music. The speaker's tone patterns and rhythms were just as critical as the verbal text. Savela's word choices were polite and innocuous, but her rhythms communicated something else—a mixture of affection and amusement that would have seemed contemptuous if she and Morgan hadn't shared a pairing that had lasted six decades.

To Morgan, Madame Dawne was pathetic, not comic. She spent most of her days, as far as anyone could tell, in the electronic dream worlds she constructed in her apartment. No one on the ship had seen her true face. When she appeared on someone's screens, her electronic personae were impressively unimaginative. She usually imaged herself as a tall woman, with close cropped red hair, dressed in the flamboyant boots-and-baggy-shirts style that North Americans had adopted during the third decade of the twenty-first century—the body type and clothing mode that had been fashionable when she had been in her natural prime.

Morgan had put a wargame template on his information system and had it explore some of the things Madame Dawne could do. Savela might smile at the thought that a limited, underdeveloped personality like Madame Dawne might undertake something dangerous. The wargame program had come up with seventy-four weapons systems a wealthy individual could develop with the aid of the information in the databanks. Half the systems were straightforward modifications of the devices that dug out apartment spaces and extracted mineral resources from the rocky exterior of the ship. Most of the others involved an offensive use of the self-replicating machines that handled most of the passengers' daily needs.

Madame Dawne couldn't have designed any of the machines the wargame program had suggested. She probably didn't even know the ship could place them at her disposal. Did she realize she could ask a wargame program for advice? Morgan didn't know.

Morgan's political studies had included an exhaustive module in applied personality profiling. He could recite from memory the numbers that described the kind of person who could become a successful small-community politician. He hadn't been surprised when his profiling program had told him he scored below average on most of the critical personality characteristics. He had made several attempts to enter the course change controversy and the results would have evoked I-told-you-so head shakes from the technicians who had developed the profiling program. The program had been almost cru-

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elly accurate when it had informed him he had a low tolerance for disagreement. He could have given it fifty examples of his tendency to become hot-tempered and defensive when he attracted the attention of aggressive debaters. For the last few months, he had been avoiding the public symposiums and feeding private suggestions to people who could turn his ideas into effective attempts at persuasion. Now he fleshed out the profiles he had been storing in his databanks and started recruiting a six member political team.

Morgan couldn't proselytize prospects and debate verbal brawlers, but he had discovered he could do something that was just as effective: he could win the cooperation of the people who could. Some of the people he approached even *enjoyed* accosting their fellow citizens and lobbying them on political issues. They couldn't always follow Morgan's logic, but they considered that a minor problem. They were extroverted, achievement-oriented personalities and Morgan gave them suggestions that worked. If he told them a visit to X made good sense at this moment, and a visit to Y would be a waste of time, they approached both prospects the first couple of times he made a recommendation, and followed his advice after that.

Most of the political strategies Morgan had studied could be fitted into three categories: you could be *combative and confrontational,* you could *market,* or you could explore the subtleties of *the indirect approach.* Temperamentally, Morgan was a marketer who liked to use the indirect approach. Once he had his political organization going, he ran another analysis of the profiles in his databanks and organized a Terraforming Committee. Five engineering-oriented personalities sat down with a carefully selected political personality and began looking at the possibility some of the planets of 82 Eridani could be transformed into livable environments. Eight months after Morgan had established the committee, the first simulated planetary environment took its place in the public databanks. Interested individuals could soar across a planetary landscape that included blue skies, towering forests, and creatures selected from three of Earth's geologic eras and two of its mythological cycles.

It took almost five years, but Morgan's efforts succeeded. An overwhelming consensus emerged. The ship would stay on course.

Unfortunately, the Eight still seemed to enjoy baiting Madame Dawne. By this time, however, Morgan had constructed detailed profiles of every personality in the octet.

The most vulnerable was a woman named Miniruta Coboloji. Miniruta's primary motivation, according to the profile program, was an intense need for affiliation.

Morgan had known his pairing with Savela Insdotter would end sooner or later. Everything had to end sooner or later. The surprise had been the identity of the man who had succeeded him.

Morgan had assumed Savela would grow tired of his skeptical, creedless outlook and pair with someone who shared her beliefs. Instead, her next partner had been Ari Sun-Dalt—the outspoken champion of a communion that had been founded on the belief that every member of the human race was involved in a cosmic epic: the struggle of matter to become conscious.

Life was not an accident, the advocates of Ari's worldview asserted. It was the purpose of the universe. The idea that dominated Ari's life was the Doctrine of the Cosmic Enterprise—the belief that the great goal of the cosmos was the unlimited expansion of Consciousness.

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Ari had been adding organic and electronic enhancements to his brain ever since he was in his thirties. The skin on the top of his skull concealed an array that included every chip and cell cluster his nervous system would accept. His head was at least 25 percent longer, top to bottom, than a standard male head. If something could increase his intelligence or heighten his consciousness, Ari believed it would be immoral not to install it.

"We can always use recruits," Ari said. "But I must tell you, my friend, I feel there's something cynical about your scheming."

Morgan shrugged. "If I'm right, Miniruta will be ten times more contented than she is now. And the ship will be serener."

They were both speaking Jor—an everyday language, with a rigidly standardized vocabulary, which had roots in twenty-first century French. Morgan had told Ari he had detected signs that Miniruta would be interested in joining his communion, and Ari had immediately understood Morgan was trying to remove Miniruta from the Eight. Ari could be surprisingly sophisticated intellectually. Most people with strong belief systems didn't like to think about the psychological needs people satisfied when they joined philosophical movements.

Miniruta joined Ari's communion a year after Ari set out to convert her. She lost interest in the Eight as soon as she acquired a new affiliation—just as Morgan's profiles had predicted she would. Morgan had been preparing plans for three other members of the group but Miniruta's withdrawal produced an unexpected dividend. Two of the male members drifted away a few tendays after Miniruta proclaimed her new allegiance. Their departure apparently disrupted the dynamics of the entire clique. Nine tendays after their defection, Morgan could detect no indications the Eight had ever existed.

On the outside of the ship, in an area where the terrain still retained most of the asteroid's original contours, there was a structure that resembled a squat slab with four circular antennas mounted at its corners. The slab itself was a comfortable, two-story building, with a swimming pool, recreation facilities, and six apartments that included fully equipped communication rooms.

The structure was the communications module that received messages from the solar system and the other ships currently creeping through interstellar space. It was totally isolated from the ship's electronic systems. The messages it picked up could only be examined by someone who was actually sitting in one of the apartments. You couldn't transfer a message from the module to the ship's databanks. You couldn't even carry a recording into the ship.

The module had been isolated from the rest of the ship in response to a very real threat: the possibility someone in the solar system would transmit a message that would sabotage the ship's information system. There were eight billion people living in the solar system. When you were dealing with a population that size, you had to assume it contained thousands of individuals who felt the starships were legitimate targets for lethal pranks.

Morgan had been spending regular periods in the communications module since the first years of the voyage. During the first decades, the messages he had examined had become increasingly strange. The population in the solar system had been evolving at a rate that compressed kilocenturies of natural evolution into decades of engineered modification. The messages that had disturbed him the most had been composed in the languages he had learned

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in his childhood. The words were familiar but the meaning of the messages kept slipping away from him.

Morgan could understand that the terraforming of Mars, Venus, and Mercury might have been speeded up and complexified by a factor of ten. He could even grasp that some of the electronically interlinked communal personalities in the solar system might include several million individual personalities. But did he really understand the messages that seemed to imply millions of people had expanded their personal *physiologies* into complexes that encompassed entire asteroids?

The messages included videos that should have eliminated most of his confusion. Somehow he always turned away from the screen feeling there was something he hadn't grasped.

The situation in the solar system had begun to stabilize just before Morgan had turned his attention to the turmoil created by the Eight. Over the next few decades the messages became more decipherable. Fifty years after the problem with the Eight—one hundred and sixty-two years after the ship had left the solar system—almost all the messages reaching the ship came from members of Ari Sun-Dalt's communion.

The believers in the Doctrine of the Cosmic Enterprise were communicating with the starships because they were becoming a beleaguered minority. The great drive for enhancement and progress had apparently run its course. The worldviews that dominated human civilization were all variations on the EruLabi creeds.

Ari spent long periods—as much as ten or twelve tendays in a row—in the communications module. The human species, in Ari's view, was sinking into an eternity of aimless hedonism.

Ari became particularly distraught when he learned the EruLabi had decided they should limit themselves to a 20 percent increase in skull size—a dictum that imposed a tight restriction on the brainpower they could pack inside their heads. At the peak of the enhancement movement, people who had retained normal bipedal bodies had apparently quadrupled their skull sizes.

"We're the only conscious, intelligent species the solar system ever produced," Ari orated in one of his public communiqués. "We may be the only conscious, intelligent species in this section of the galaxy. And they've decided an arbitrary physiological aesthetic is more important than the development of our minds."

The messages from the solar system had included scientific discussions. They had even included presentations prepared for "nonspecialists." Morgan had followed a few of the presentations as well as he could and he had concluded the human species had reached a point of diminishing returns.

Morgan would never possess the kind of complexified, ultra-enhanced brain his successors in the solar system had acquired. Every set of genes imposed a ceiling on the organism it shaped. If you wanted to push beyond that ceiling, you had to start all over again, with a new organism and a new set of genes. But Morgan believed he could imagine some of the consequences of that kind of intellectual power.

At some point, he believed, all those billions of superintelligent minds had looked out at the universe and realized that another increase in brain power would be pointless. You could develop a brain that could answer every question about the size, history, and structure of the universe, and find that you still couldn't answer the philosophical questions that had tantalized the most

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primitive tribesmen. And what would you do when you reached that point? You would turn your back on the frontier. You would turn once again to the bath and the banquet, the harp and the dance.

And changes of raiment.

And love.

And sleep.

The situation on the ship was almost the mirror image of the situation in the solar system. On the ship, 48 percent of the population belonged to Ari's communion. Only 19 percent had adopted the EruLabi creeds. But how long could that last? Morgan had been watching the trends. Every few years, someone abandoned the Doctrine of the Cosmic Enterprise and joined the EruLabi. No one ever left the EruLabi and became a devoted believer in the Cosmic Enterprise.

The discovery that 82 Eridani was surrounded by lifeless planets had added almost a dozen people to the defectors. The search for life-bearing planets was obviously a matter of great significance. If consciousness really was the purpose of the universe, then life should be a common phenomenon.

In 2315, just four years after the final dissolution of the Eight, the *Island of Adventure* had received its first messages from Tau Ceti and Morgan had watched a few more personalities float away from Ari's communion. The ship that had reached Tau Ceti had made planetfall after a mere one hundred and forty years and it had indeed found life on the second planet of the system. Unfortunately, the planet was locked in a permanent ice age. Life had evolved in the oceans under the ice but it had never developed beyond the level of the more mundane marine life forms found on Earth.

Morgan had found it impossible to follow the reasons the planet was iced over. He hadn't really been interested, to tell the truth. But he had pored over the reports on the undersea biota as if he had been following the dispatches from a major war.

One of the great issues in terrestrial evolutionary theory had been the relationship between chance and necessity. To Ari and his disciples, there was nothing random about the process. Natural selection inevitably favored qualities such as strength, speed, and intelligence.

To others, the history of life looked more haphazard. Many traits, it was argued, had developed for reasons as whimsical as the fact that the ancestor who carried Gene A had been standing two steps to the right when the rocks slid off the mountain.

The probes that had penetrated the oceans of Tau Ceti IV had sent back images that could be used to support either viewpoint. The undersea biota was populated by several hundred species of finned snakes, several thousand species that could be considered roughly comparable to terrestrial insects, and clouds of microscopic dimlight photosynthesizers.

Yes, evolution favored the strong and the swift. Yes, creatures who lived in the sea tended to be streamlined. On the other hand, fish were not inevitable. Neither were oysters. Or clams.

If the universe really did have a purpose, it didn't seem to be very good at it. In the solar system, theorists had produced scenarios that proved life could have evolved in exotic, unlikely environments such as the atmosphere of Jupiter. Instead, the only life that had developed outside Earth had been the handful of not-very-interesting microorganisms that had managed to maintain a toehold on Mars.

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The purpose of the universe isn't the development of consciousness, one of the EruLabi on board the *Island of Adventure* suggested. *It's the creation of iceballs and deserts. And sea snakes.*

Ari's enhancements included a gland modification that gave him the ability to switch off his sexual feelings at will. His pairing with Savela Insdotter had lasted less than two decades, and he had made no attempt to establish another pairing. Ari had spent most of the voyage, as far as Morgan could tell, in an asexual state.

There were times, during the last decades of the voyage, when Morgan felt tempted to emulate him. Morgan's next pairing only lasted twelve years. For the rest of the voyage, he took advantage of the small number of sexual opportunities that came his way and distracted himself, during his celibate intervals, with intellectual projects such as his political studies.

The ship's medical system could install Ari's sexual enhancement in thirty minutes, as part of the regular medical services included in the standard embarkation agreement. Morgan put the idea aside every time he considered it. He had learned to cherish his feelings about women, irrational as they might be. There was, he knew, no real reason why he should respond to the flare of a woman's hips or the tilt of a female neck. It was simply a bit of genetic programming he hadn't bothered to delete. It had no practical value in a world in which children were created in the workshops of genetic designers. But he also knew he would be a different person if he subtracted it from his psychological makeup. It was one of the things that kept you human as the decades slipped by.

In 2381—forty-six years before it was scheduled to reach its destination—the *Island of Adventure* intercepted a message from the probe that had been sent to Rho Eridani. Neither of the stars in the double system possessed planets. The *Green Voyager* was crawling toward an empty system.

In 2398—one hundred and ninety-five years after the ship had begun its journey—the medical system replaced Morgan's heart, part of his central nervous system, and most of his endocrine glands. It was the third time Morgan had put himself through an extensive overhaul. The last time he had recovered within three years. This time he spent eight years in the deepest sleep the system could maintain.

The first program capsules left the ship while it was still careening around the 82 Eridani system, bouncing from planet to planet as it executed the five year program that would eliminate the last 20 percent of its interstellar speed. There were three capsules and their payloads were packages a little smaller than Morgan's forefinger.

One capsule malfunctioned while it was still making its way toward the small moon that orbited the third planet at a distance of 275,000 kilometers. The second lost two critical programs when it hit the moon at an angle that was a little too sharp. The third skimmed through the dust just the way it was supposed to and sprouted a set of filaments. Sampling programs analyzed the moon's surface. Specks that were part cell and part electronic device began drifting down the filaments and executing programs that transformed the moon's atoms into larger, more elaborate specks. The specks produced machines the size of insects, the insects produced machines the size

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of cats, an antenna crept up the side of a small crater, and an antenna on the *Island of Adventure* started transmitting more programs. By the time the ship settled into an orbit around the third planet, the moon had acquired a complete manufacturing facility, and the lunar fabrication units had started producing scout machines that could land on the planet itself.

Morgan had thought of the terraforming scheme as a political ruse, but there were people on the ship who took it seriously. With the technology they had at their disposal, the third planet could be turned into a livable world within a few decades. For people who had spent their entire lives in enclosed habitats, it was a romantic idea—a world where you walked on the surface, with a sky above you, and experienced all the vagaries of weather and climate.

The only person who had raised any serious objections had been Ari Sun-Dalt. Some of the valleys they could observe from orbit had obviously been carved by rivers. The volcano calderas were less spectacular than the volcanoes of Mars but they were still proof the planet had once been geologically active. They couldn't overlook the possibility life might be hiding in some obscure ecological network that was buried under the soil or hidden in a cave, Ari argued.

Most of the people on the ship greeted that kind of suggestion with shrugs and smiles. According to Morgan's sampling programs, there were only about ten people on the ship who really thought there was a statistically significant possibility the planet might have generated life. Still, there was no reason they couldn't let Ari enjoy his daydreams a little longer.

"It will only take us an extra two or three years," Ari said. "And then we'll know we can remodel the place. First we'll see if there's any life. Then we'll do the job ourselves, if the universe hasn't done it already. And bring Consciousness to another world."

For Ari's sake—he really liked Ari in many ways—Morgan hoped they might find a few fossilized microorganisms embedded in the rocks. What he did not expect was a fossil the size of a horse, embedded in a cliff, and visible to any machine that came within two kilometers of it.

Three and a half billion years ago, the planet had emerged from the disk of material that surrounded its sun. A billion or so years later, the first long-chain molecules had appeared in the oceans. And the history of life had begun. In the same way it had begun on Earth.

The long-chain molecules had formed assemblies that became the first rudimentary cells. Organisms that were something like plants had eventually begun to absorb the CO_2 produced by the volcanoes. The oxygen emitted by the quasi-plants had become a major component of the atmosphere. The relentless forces of competition had favored creatures who were more complex than their rivals.

And then, after less than two billion years of organic evolution, the laws of physics had caught up with the process. No planet the size of this one could hold an atmosphere forever.

The plants and the volcanoes could produce oxygen and CO_2 *almost* as fast as the gas molecules could drift into space. But almost wasn't good enough.

They didn't piece the whole story together right away, of course. There were even people who weren't convinced the first find was a fossil. If the

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scout machines hadn't found ten more fossils in the first five daycycles, the skeptics would have spent years arguing that Exhibit A was just a collection of rocks—a random geologic formation that just happened to resemble a big shell, with appendages that resembled limbs.

On Earth, the dominant land animals had been vertebrates—creatures whose basic characteristic was a bony framework hung on a backbone. The vertebrate template was such a logical, efficient structure it was easy to believe it was as inevitable as the streamlined shape of fish and porpoises. In fact, it had never developed on this planet.

Instead, the basic anatomical structure had been a tube of bone. Creatures with this rigid, seemingly inefficient, structure had acquired legs, claws, teeth and all the other anatomical features vertebrates had acquired on Earth. Thousands of species had acquired eyes that looked out of big eyeholes in the front of the shell, without developing a separate skull. Two large families had developed "turrets" that housed their eyes and their other sense organs but they had kept their brains securely housed in the original shell, in a special chamber just under the turret.

On Earth, the shell structure would have produced organisms that might have collapsed from their own weight. On this planet, with its weaker gravitational field, the shells could be thin and even airy. They reminded Morgan of building components that had been formed from solidified foam—a common structural technique in space habitats.

For Ari, the discovery was the high point of his lifespan—a development that had to be communicated to the solar system at once. Ari's face had been contorted with excitement when he had called Morgan an hour after the machines reported the first find.

"We've done it, Morgan," Ari proclaimed. "We've justified our whole voyage. Three thousand useless, obsolete people have made a discovery that's going to transform the whole outlook in the solar system."

Morgan had already been pondering a screen that displayed a triangular diagram. The point at the bottom of the triangle represented the solar system. The two points at the top represented 82 Eridani and Rho Eridani. The *Island of Adventure* and the *Green Voyager* had been creeping up the long sides of the triangle. The *Green Voyager* was now about three light years from Rho—thirty-three years travel time.

Morgan transferred the diagram to Ari's screen and pointed out the implications. If the *Island of Adventure* transmitted an announcement to the solar system, the *Green Voyager* would pick it up in approximately seven years. If the people on the *Voyager* thought it was interesting, they could change course and reach 82 Eridani only twelve and a half decades after they intercepted the message.

"That gives us over one hundred and thirty years to explore the planet," Ari argued. "By that time we'll have learned everything important the fossils have to offer. We'll have done all the real work. We'll be ready to move on. And look for a world where we can communicate with a *living* Consciousness."

Unfortunately, the situation didn't look that straightforward to the rest of the community. To them, a hundred and thirty years was a finite, envisionable time period.

There was, after all, a third possibility—as Miniruta Coboloji pointed out

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in one of her contributions to the electronic debate. *The* Green Voyager *may never come this way at all,* Miniruta argued. *They may reach Rho thirty-three years from now, pass through the system, and point themselves at one of the stars that lies further out. They've got three choices within fourteen light years. Why can't we just wait the thirty-three years? And send a message after they've committed themselves to some other star system?*

For Ari, that was unthinkable. *Our announcement is going to take twenty years to reach the solar system no matter what we do. If we sit here for thirty-three years before we transmit, it will be fifty-three years before anyone in the solar system hears about one of the most important discoveries in history. We all know what's happening in the solar system. Fifty-three years from now there may not be anyone left who cares.*

Once again Morgan labored over his screens. Once again, he recruited aides who helped him guide the decision-making process. This time he engineered a compromise. They would send a brief message saying they had "found evidence of extinct life" and continue studying the planet's fossils. Once every year, they would formally reopen the discussion for three ten-days. They would transmit a complete announcement "whenever it becomes clear the consensus supports such an action."

Ari accepted the compromise in good grace. He had looked at the numbers, too. Most of the people on the ship still belonged to his communion.

"They know what their responsibilities are," Ari insisted. "Right now this is all new, Morgan. We're just getting used to the idea that we're looking at a complete planetary biota. A year from now—two years from now—we'll have so much information in our databanks they'll know we'd be committing a criminal act if we didn't send every bit of it back to the solar system."

It was Ari who convinced them the planet should be called Athene. Athene had been a symbol of wisdom and culture, Ari pointed out, but she had been a war goddess, too. And didn't the world they were naming bear a distinct resemblance to the planet the ancient humans had named after their male war figure?

The information pouring into the databanks could be examined by anyone on the ship. In theory, anyone could give the exploration machines orders. In practice, the exploration of the Athenian fossil record soon came under the control of three people: Ari, Morgan—and Miniruta Coboloji.

Morgan had been watching Miniruta's development ever since he had lured her away from the Eight. Physically, she was a standard variation on the BR-V73 line—the long, willowy female body type that had been the height of fashion in the lunar cities in the 2130s. Her slim, beautifully crafted fingers could mold a sculpture—or shape a note on a string instrument—with the precision of a laser pointer.

It was a physical style that Morgan found aesthetically appealing, but there were at least two hundred women on the ship who had been shaped by the same gene cluster. So why was Miniruta the only BR-V73 who crept into his thoughts during the more stressful hours of his celibate intervals? Was it because there was something desperate about the need for affiliation he had uncovered in her personality profile? Did that emotional vulnerability touch something in his own personality?

Miniruta's affiliation with the Doctrine of the Cosmic Enterprise had last-

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ed four decades. Ari claimed her switch to the EruLabi worldview had been totally unexpected. Ari had gone to sleep assuming she was one of his most ardent colleagues and awakened to discover she had sent him a long message explaining the reasons for her conversion and urging him to join her.

During the decades in which she had been a member of Ari's communion, Miniruta had followed Ari's lead and equipped herself with every pharmaceutical and electrical enhancer she could link to her physiology. The electronic enhancers had all been discarded a few tendays after she had joined the EruLabi. Her pharmaceutical enhancers had been dispensed with, item by item, as she had worked her way up the EruLabi protocols. She had been the second EruLabi on the ship who had made it to the fourth protocol and accepted its absolute prohibition of all non-genetic mental and physiological enhancers.

Morgan could now talk to her without struggling. His own pharmaceutical enhancers erased most of the intellectual gap that separated two people who had been brought into the universe twenty years apart. He had been surprised when he had discovered Miniruta was spending two-thirds of every daycycle with the data from the fossil hunt, but he had soon realized she had a philosophical agenda.

To Miniruta, the course of evolution on Athene proved that evolution was a random process. "Ari's right, Morgan," Miniruta said. "This planet can teach us something we need to understand. But it's not the lesson Ari thinks it is. It's telling us there isn't any plan. There's no big overall objective—as if the universe is some kind of cosmic totalitarian state. The only reality is individuals. And their needs."

To Ari, the critical question was the evolution of intelligence. Obviously, life had died out on Athene before intelligent creatures could build cities or turn meadows into farms. But wasn't there some chance something like the first proto-humans had evolved? If that first glimmer of tool-making, culture-creating intelligence had appeared on the planet, wouldn't it prove that evolution really did lead in a particular direction?

"I'll grant you the vertebrates were obviously an accident," Ari said. "But you can still see an obvious increase in intelligence if you look at the progressions we've been uncovering. You can't go from stationary sea creatures to land creatures that were obviously highly mobile without a lot of development in the brain. Intelligence is the inevitable winner in the selection process. The life forms that can think better will always replace the life forms with less complex nervous systems."

"The way human beings replaced the cockroach?" Miniruta asked. "And the oyster?"

Miniruta was speaking VA13. The lilt in her voice expressed a casual mockery that Morgan would have found devastating if she had directed it at him.

"We were not in direct genetic competition with the cockroach and the oyster," Ari said in Tych. "The observable fact that certain lines remained static for hundreds of millions of years doesn't contradict the observable fact that natural selection tends to produce creatures with more highly developed brains. We could have destroyed every species on the Earth if we had wanted to. We let them live because we needed a complex biosphere. They survived because they satisfied one of *our* needs."

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To Morgan, most of the information they were gathering proved that natural selection really was the powerful force the theorists had claimed it was.

Certain basic patterns had been repeated on both planets. Life forms that had been exceptionally massive had possessed jaw structures that indicated they had probably been herbivores—just as terrestrial herbivores such as the elephant had been the largest organisms in their habitats. Life forms that had possessed stabbing teeth and bone-crunching jaws tended to be medium-sized and looked as if they had probably been more agile.

But the process obviously had its random qualities, too. Was it just a matter of random chance that vertebrates had failed to develop? Had the shell creatures dominated the planet merely because certain molecules had fallen into one type of pattern on Earth and another pattern on Athene? Or had it happened because there was some difference in the conditions life had encountered on the two planets?

To Morgan, it didn't matter what the answer was. Evolution might proceed according to laws that were as rigid as the basic laws of physics, or it might be as random as a perfect game of chance. He would be happy with either answer. He could even be content with no answer.

That was one of the things people never seemed to understand about science. As far as Morgan was concerned, you didn't study the universe because you wanted to know the answers. You studied it to *connect*. When you subjected an important question to a rigorous examination—collecting every scrap of evidence you could find, measuring and analyzing everything that could be measured and analyzed—you were linked to the universe in a way nothing else could connect you.

Religious mystics had once spent their lives trying to establish a direct contact with their version of God. Morgan was a mystic who tried to stay in contact with the cosmos.

Ari had assigned three groups of exploration machines to a hunt for camp sites. The teams concentrated on depressions that looked as if they had once been rivers and probed for evidence such as stone tools and places where a large number of animal fossils had been concentrated in a small area. They found two animal deposits within their first three tendays and Ari quickly pointed out that the animals had clearly been disassembled.

"These aren't just tar pits or places where a catastrophe killed several animals accidentally," Ari argued. "Note how the remains of the different species are all jumbled up. If they had been killed by a rockslide from the surrounding heights—to name just one alternate possibility—the remains of each animal would have tended to stay together. The pattern we're looking at here is the pattern we'd expect to see in a waste pit."

Miniruta tossed her head. "If they were butchered," she said in VA13, "then somebody had to use tools to cut them up. Show us a flint tool, Ari. Show us some evidence of fire."

Machines burrowed and probed in the areas around the "waste pits." Scraping attachments removed the dirt and rock one thin layer at a time. Raking attachments sieved the dust and rubble. Search programs analyzed the images transmitted by the onsite cameras and highlighted anything that met the criteria Ari had stored in the databanks. And they did, in fact, find slivers of flint that could have been knives or spearheads.

Ari had two of the flints laid out on a tray, with a camera poised an arm's

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length above the objects, and displayed them on one of the wall screens in his apartment. Morgan stared at the tray in silence and let himself surrender to all the eerie, haunting emotions it aroused, even with Ari babbling beside him.

"On Earth," Miniruta pointed out, "we already knew the planet had produced intelligent life. We could assume specimens like that had been made by intelligent beings because we already knew the intelligent beings existed. But what do we have here, Ari? Can we really believe these objects were shaped by intelligent beings when we still haven't seen anything that resembles hands? So far, you haven't even located an organism that had *arms*."

There were other possibilities, of course. Ari had studied most of the ideas about possible alien life forms that humans had come up with in the last few centuries and installed them in the databanks housed in his electronic enhancers. He could produce several plausible examples of grasping organs composed of soft tissue that would only fossilize under rare, limited conditions. The tool makers could have possessed tentacles. They could have used some odd development of their lips.

Miniruta tipped back her head and raised her eyebrows when she heard Ari mention tentacles. The high pitched lilt of her VA13 communicated—once again—the condescension that permeated her attitude toward Ari.

"The cephalopods all lived in the sea, Ari. Our arms evolved from load-bearing legs. I admit we're discussing creatures who evolved in a lower gravity field. But they weren't operating in zero gravity."

"I've thought about that," Ari said. "Isn't it possible some tentacled sea-creatures could have adapted an amphibious lifestyle on the edge of the sea and eventually produced descendants who substituted legs for some of their tentacles? On our own planet, after all, some of the land dwellers who lived on the edge of Earth's oceans eventually produced descendants whose legs had been transformed into fins. With all due respect to your *current* belief system, Miniruta—our discussions would be significantly more succinct if you weren't trying to discuss serious issues without the benefit of a few well-chosen enhancements. You might see some of the possibilities I'm seeing before I have to describe them to you."

As an adherent of the fourth EruLabi protocol, Miniruta only rejected permanent enhancements that increased her intellectual and physical powers. Temporary enhancements that increased pleasure were another matter. Miniruta could still use a small selection of the sexually enhancing drugs developed in the twenty-first century, in addition to the wines, teas, and inhalants that had fostered pre-pharmaceutical social relations. She and Morgan had already shared several long, elaborately choreographed sexual interludes. They had bathed. They had banqueted. They had reclined on carefully proportioned couches, naked bodies touching, while musicians from a dozen eras had materialized in Miniruta's simulators. The EruLabi sexual rituals had cast a steady, sensuous glow over the entire six decades Morgan had spent with Savela Insdotter. He had resumed their routines as if he had been slipping on clothes that were associated with some of the best moments of his life.

They were nearing the end of a particularly satisfactory interlude when Miniruta switched on her information system and discovered she had received a please-view-first message from Ari. "I've been looking over some of

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the latest finds from one of your random-survey teams," Ari said. "Your idea paid off. They've handed us a fossil that looks like it left traces of soft-bodied tissue in the rocks in front of it—imprints that look like they could have been made by the local equivalent of tentacles. Your team found it in the middle of a depression in that flat area on the top of the main southern plateau—a depression that's so shallow I hadn't even noticed it on the maps."

Miniruta had decided that half her exploration machines would make random searches. Ari and Morgan were both working with intellectual frameworks based on the history of Earth, Miniruta had argued. Morgan was looking at the kinds of sites that had produced fossils on Earth. Ari was looking for traces of hunter-gatherers. "A random process," she had pronounced, "should be studied by random probing."

Now her own philosophical bias had apparently given Ari what he had been looking for. Ari would never have ordered one of his machines into the winding, almost invisible depression Miniruta's machine had followed. But that dip in the landscape had once been a river. And the river had widened its path and eroded the ground above a fossil that had formed in the sediment by the bank.

It was a cracked, fragmented shell about a third the length of a human being. Only one side of it had been preserved. But you could still see that it was essentially a tube with a large opening at one end, a smaller opening at the other, and no indications it had openings for legs. In the rock in front of the large opening, Morgan could just make out the outlines of impressions that could have been produced by a group of ropy, soft-bodied extensions.

Ari highlighted three spots on the rim of the large opening. "Notice how the opening has indentations on the rim, where the extensions leave it. They aren't very big, but they obviously give the extensions a little more room. I've ordered a search of the databank to see how many other shells have indentations like that. If there was one creature like this on the planet, there should have been other species built along the same pattern. I'm also taking another look at all the shells like this we've uncovered in the past. My first pass through the databank indicates we've found several of them near the places where we found the burial pits."

For Ari, the find proved that it was time to let the solar system know the full truth. He posted a picture of the fossil on the information system an hour after he had notified Morgan and Miniruta. "We now have evidence that creatures with fully developed grasping organs existed on this planet," Ari argued. "The evidence may not be conclusive, but it can't be dismissed either. The people of the solar system have a right to draw their own conclusions. Let them see the evidence we've collected. Let the minority who are resisting stagnation and decline derive hope from the knowledge more evidence may follow."

It had only been eight tendays since Ari had agreed to the compromise Morgan had worked out. Yet he was already demanding that they cancel the agreement.

To Miniruta, the idea was absurd. Ari was suggesting that the forests of Athene had harbored tentacled creatures who had hung from trees and occupied the ecological niches monkeys had appropriated on Earth. And he was jumping from that improbability to the idea that some of these hypothetical creatures had developed weapons and become hunter-gatherers.

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"I am not saying anything is true," Ari insisted. "I am merely noting that we now have pits full of butchered animals, tools that could have butchered them, and a type of organism that could have manipulated the tools."

Ari had even developed a scenario that equipped his fantasy creatures with the ability to move along the ground at a pace suitable for hunters. Suppose, he argued, they had begun their advance to intelligence by learning to control some type of riding animal?

To Ari, his proposal was a logical variation on the process that had shaped human intelligence. On Earth, tree dwellers had developed hands that could grasp limbs and brains that could judge distances and trajectories. Then they had adapted the upright posture and used their hands to create stone tools. Tool use had created a way of life that put a premium on intelligence, the individuals with the best brains had tended to be the survivors, and a creature who could build starships had taken its place in the universe.

"On Athene," Ari argued, "the drive toward intelligence may have followed a different course. The tree dwellers couldn't develop upright walking so they began by controlling animals. They became mounted hunters—creatures who could rove like ground animals and manipulate the same simple tools our own ancestors chipped from the rocks. The evolutionary process may take many twists. It may be bloody and cruel. But in the end, it gives us planets populated by creatures who are intelligent and conscious. The arrow points in only one direction."

Thirty years from now—perhaps even ten years from now—Morgan's feelings about Miniruta would just be a memory. Morgan knew that. There would come a moment when he would wonder how he could have believed all his pleasure in life depended on the goodwill of another human being. But right now he just knew he wanted to create a crowded memory. Right now he felt as if he had spent the last few decades in a state of half-dead numbness.

He had started playing with his political analysis programs as soon as he had realized Ari was initiating a new round of agitated debate. The situation had looked dangerous to him and the picture that had emerged on his screens had confirmed his intuitive judgment. About 25 percent of the people on the ship believed a report on the new find should be transmitted to the solar system. Almost 30 percent registered strong opposition. The rest of the population seemed to be equally divided between not-convinced-we-should and not-convinced-we-shouldn't.

If Ari's first appeals had attracted a solid 40 or 45 percent, Morgan would have given him some extra support and helped him win a quick, overwhelming victory. Instead, the *Island of Adventure* community had stumbled into one of those situations in which a divisive debate could go on indefinitely.

Morgan was savoring teas with Miniruta when he suggested the one option that looked as if it might defuse the situation.

"I've decided to assign all my exploration teams to the search for evidence that supports Ari's theories," Morgan said. "I think it would be a wise move if you did the same thing—for awhile anyway. We're not going to get any peace on this ship until we come up with solid evidence Ari's right. Or make it clear we probably never will."

They had both been speaking Plais—a graceful EruLabi invention that had been designed for the lighter types of social events. Morgan had switched to Jor when he started discussing his proposal and Miniruta transferred to Jor with him.

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"You want to divert equipment from all the other research we're doing?" Miniruta said. "As far as I'm concerned, Ari has all the resources he needs. We're producing the first survey of an alien ecosystem. Why should we interrupt that merely because one member of our expedition has become obsessed with a fantasy?"

The vehemence in her voice caught Morgan off guard. He had thought he was offering her a modest, reasonable proposal. He had run the idea through his political simulation programs and the results had indicated most of the people on the ship would approve a transmission to the solar system if Ari managed to locate more evidence. A minority would never feel happy with the decision—but at least a decision would have been made.

"It shouldn't divert us for more than a few tendays," Morgan said. "We can intensify Ari's hunt for campsites. We can look for associations between possible mounts and possible riders. We can ignore the low lying areas for the time being and concentrate on the regions that probably stayed above sea level when Athene had seas. If we do all that and don't come up with something decisive in a few tendays—I think we can assume we'll get a clear consensus that we shouldn't overrule our current agreement and transmit a message before the next discussion period."

"And what if we find the kind of evidence he's looking for? Do you think Madame Dawne will just nod agreeably? And let us do something that could destroy her?"

"If there's evidence out there to be found—sooner or later we're going to find it. She's going to have to accept that eventually."

Miniruta reached across the tea table and touched his hand. She slipped into Plais just long enough to preface her response with a word that meant something like "pleasure-friend."

"*Donilar*—even if the evidence is there, will it really do us any good if we find it? Why should we jeopardize our whole way of life just so Ari can give a dying minority group information that will only prolong its agonies?"

Morgan knew he shouldn't have felt as if he had just been ambushed. He had been watching Miniruta for over a century. Everything she had done had proved that the profiling program had been correct when it had decided her personality structure was dominated by a deep need for affiliation. When she had been associated with Ari's group, she had maximized her use of enhancements. When she had switched to the other side, she had become a model of EruLabi virtue.

But he was in love. He had surrendered—willingly, for his own reasons—to one of the oldest delusions the human species had invented. And because he was in love, he had let himself ignore something that should have been obvious. Miniruta's dispute with Ari wasn't an argument about the nature of the universe. It was an argument about what human beings should *believe* about the nature of the universe.

The teas were followed by music. The music was followed by a long, dreamlike concentration on the shape and texture of Miniruta's body. And afterward Morgan returned to his apartment and watched his programs churn out scenarios that included a new factor: a woman who believed Ari's worldview was a disease that should be eradicated from human society.

Morgan's programs couldn't tell him what Miniruta was going to do. No program could predict all the tactical choices a human brain could choose.

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But the programs could suggest possibilities. And they could estimate the intensity of Miniruta's responses.

He spotted what she was doing hours after she started doing it. Her "randomly searching" machines occupied one of the prime sites on Ari's list and started scraping and digging just a few hours before Ari's own machines were scheduled to work on it.

Ari called Morgan as soon as he finished his first attempt to "reason" with Miniruta. He still thought Miniruta's program had made a random choice. He still believed she was just being obstinate when she refused to let his machines excavate the site.

"She's got some kind of silly idea she has to stick to her ideal of pure randomness," Ari said. "She's trying to tell me she wouldn't be operating randomly if she let her team go somewhere else."

Morgan agreed to act as a go-between and Miniruta gave him the response he had expected. It was just a random event, she insisted. Why should Ari object? Now he could send his machines to one of the other sites on his list.

"It's one of the big possibilities on his current list," Morgan said. "He thinks he should explore it himself."

"Doesn't he think my machines are competent? Is he afraid they'll spend too much time indulging in sensual pleasures?"

"Ari thinks this is a totally accidental occurrence, Miniruta."

She smiled. "And what does my little donilar think?"

Morgan straightened up and gave her his best imitation of an authority figure. It was the first time she had said something that made him feel she was playing with him.

"I think it would be best if he went on thinking that," he said.

Miniruta's eyes widened. Her right hand fluttered in front of her face, as if she was warding off a blow. "Is that a *threat,* donilar? After all we have enjoyed together?"

Three daycycles later, Miniruta's machines took over two more sites. Morgan's surveillance program advised him as soon as it happened and he immediately called Ari and found himself confronted with a prime display of outrage.

"She's deliberately interfering," Ari shouted. "This can't be random. She is deliberately trying to destroy the last hope of the only people in the solar system who still have faith in the future. Even you should be able to see that, Morgan—in spite of your chemical reactions to certain types of female bodies."

It was the kind of situation Morgan normally delegated to one of his political operatives. This time there was no way he could slip away gracefully and let someone else handle it. His studies had taught him what the best responses were. He had even managed to apply them on one or two previous occasions. He let the tirade go on as long as Ari wanted to maintain it. He carefully avoided saying anything that might indicate he was agreeing or disagreeing.

Unfortunately, he was faced with something no one on the ship could have handled. Miniruta had given Ari an opening he had obviously been looking for.

"I agreed to wait until we had a consensus," Ari ranted. "I'm trying to be cooperative. But I think it's time someone reminded your overzealous paramour that there's no practical, physical reason I can't transmit a message to the solar system any time I want to."

Ari's elongated head could make him look slightly comical when he became

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overexcited. This time it was a visual reminder of the commitment behind his outbursts.

"If you really want to get this situation calmed down, Morgan—I suggest you remind her I still have more supporters than she has. They can all look at what she's been doing at the first site. They can all see her machines are carefully avoiding all the best locations and deliberately moving at the slowest pace they can maintain without stalling. You can tell her she has two choices. She can get her machines out of all three sites, or she can put them under my control. And after she's done that—I'll send her a list of all the other sites I expect her to stay away from."

Miniruta was standing in the doorway of her ritual chamber. Behind her, Morgan could glimpse the glow of the brass sculpture that dominated the far end. Miniruta had just finished one of the EruLabi rituals that punctuated her daily schedule. She was still wearing the thin, belted robe she wore during most of the rituals.

Only the night before, in this very room, they had huddled together in the most primitive fashion. They had stretched out on the sleeping platform just a few steps to Morgan's left and he had spent the entire night with his arms wrapped around her body while they slept.

"I've discussed the situation with Ari," Morgan said in Tych. "He has indicated he feels your actions have given him the right to transmit a message without authorization. He believes his supporters will approve such an action."

"And he sent you here to relay something that is essentially another threat."

"It is my belief that was his intention."

"You should tell him he'll be making a serious error. You should tell him it's obvious he thinks no one will resist him."

"I believe it would be accurate to say he believes no one will offer him any high level resistance."

"Then you should tell him his assumptions need to be revised. Madame Dawne has already armed herself. I obviously can't tell you more than that. But I can tell you she will fight if Ari tries to take control of the communications module. She is already emotionally committed to fighting."

Miniruta smiled. "Is that an informative response? Will that give Ari some evidence he should modify his assumptions?"

Morgan returned to his apartment and had his fabrication unit manufacture two sets of unarmed probes. The probes were large, cumbersome devices, about the size of a standard water goblet, but he wasn't interested in secrecy. He deployed both sets by hand, from a maintenance hatch, and monitored them on his notescreen while they tractored across the surface area that surrounded the communications module.

His notescreen accepted a call from Miniruta two minutes after the probes had made their fourth find.

"Please do not interfere, Morgan. Madame Dawne has no quarrel with you."

"I've detected four weapons so far. None of them look to me like items Madame Dawne would have deployed on her own."

"Don't underestimate her, Morgan. She believes Ari is threatening her ability to survive."

"I thought Madame Dawne was a dangerous person when we were coping

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with the course-change controversy. But that was over ten decades ago. She's only been seen twice in the last eight years. The last time her responses were so stereotyped half the people she talked to thought they were dealing with a simulation. I don't know how much personality she has left at this point—but I don't think she could surround the communications module with a defense like this unassisted."

"Ari is threatening the fabric of our community. We made an agreement as a community—a consensus that took every individual's needs into account. Madame Dawne is defending the community against a personality who thinks he can impose his own decisions on it."

Morgan fed the information from his probes into a wargame template and let the program run for over thirteen minutes. It went through four thousand simulations altogether—two thousand games in which Madame Dawne was willing to risk the total annihilation of the ship's community, followed by two thousand possibilities in which she limited herself to ambushes and low-level delaying tactics. Seventy percent of the time, Madame Dawne could keep Ari away from the communications module for periods that ranged from twenty-one daycycles to two hundred daycycles. She couldn't win, but she could force Ari into a sustained struggle.

And that was all she needed to do, according to Morgan's political estimates. Miniruta would gain some extra support if Ari broke the agreement unilaterally. But neither one of them would have a commanding majority when the fighting began. They would start out with a sixty-forty split in Ari's favor and a drawn out battle would have the worst possible effect: it would intensify feelings and move the split closer to fifty-fifty.

Morgan thought he could understand why people like Ari and Miniruta adapted belief systems. But why did they feel they had to annihilate other belief systems? His profiling programs could provide him with precise numerical descriptions of the emotions that drove the people he modeled. No program could make him feel the emotions himself.

Still, for all his relentless obsession with the Doctrine of the Cosmic Enterprise, Ari was always willing to listen when Morgan showed him the charts and graphs he had generated with his programs. Ari was interested in anything that involved intellectual effort.

"I think we can assume Miniruta isn't going to budge," Morgan reported. "But I have a suggestion you may want to consider."

"I'd be astonished if you didn't," Ari said.

"I think you should send your own machines to the sites she's occupying and have them attempt to carry out your plans. My profiling program indicates there's a high probability she'll attempt to interfere with you. As you can see by the numbers on chart three, the public reaction will probably place you in a much stronger political position if she does."

Ari turned his attention to the chart displayed on the bottom half of his screen and spent a full third of a minute studying it—a time span that indicated he was checking the logic that connected the figures.

"The numbers are convincing," Ari said in Tych. "But I would appreciate it if you would tell me what your ultimate objective is."

"There's a basic conflict between Miniruta's conduct and the message of the EruLabi creeds. Miniruta can't act the way she's been acting without arousing some hostility in the rest of the EruLabi community."

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"And you're hoping she'll alter her behavior when she finds the EruLabi are turning against her. Since she is a personality whose 'drive for affiliation' scores in the 99th percentile."

"The EruLabi are not proselytizers," Morgan said in Tych. "Their worldview tends to attract people who avoid controversy and public notice. Many EruLabi are already uncomfortable. If you'll examine Table Six, you'll see the reactions of the EruLabi community already generate an overall minus twenty in their attitude toward Miniruta. Table Seven shows you how much that will increase if they see her actually engaging in some form of active resistance."

"I'm still fully prepared to transmit a message without waiting for authorization, Morgan. I'm willing to try this. But the other option is still open."

"I understand that," Morgan said.

The biggest exploration machines on the planet were high-wheeled "tractors" that were about the size of the fabrication unit that sat in a corner of Morgan's apartment and transformed rocks and waste matter into food and other useful items. Ari started—correctly, in Morgan's opinion—by landing six machines that were only a third that size. Ari's little group of sand sifters and electronic probing devices started to spread out after their landing and three tractors detached themselves from Miniruta's team and tried to block them. Ari's nimble little machines dodged through the openings between the tractors, more of Miniruta's machines entered the action, and the tractors started colliding with Ari's machines and knocking off wheels and sensors.

Morgan stayed out of the rhetorical duel that erupted as soon as Ari circulated his recording of the robotic fracas. Instead, he focused his attention on the reactions of the EruLabi. Miniruta was defending herself by claiming she was upholding her right to pursue an alternate research pattern. It was a weak line of argument, in Morgan's opinion, and the EruLabi seemed to agree with him. The support she was attracting came from people who had opposed Ari's original request to send a message to the solar system. Morgan's search programs couldn't find a single comment—negative or positive—from anyone who could be identified as an EruLabi.

Morgan's content analysis programs had been collecting every commentary and attempt at humor that mentioned Miniruta. Over the next few hours he found five items that played on the discrepancy between Miniruta's EruLabi professions and her militant behavior. The one he liked best was a forty second video that showed a woman with a BR-V73 body type reclining in an ornate bath. The woman was bellowing EruLabi slogans at the top of her lungs and manipulating toy war machines while she jabbered about love, sensual pleasure, and the comforts of art and music. A broken tea cup jiggled on the floor beside the tub every time one of her toys fired a laser or launched a missile.

It was a crude effort that had been posted anonymously, with no attempt to circulate it. As far as Morgan could tell, only a couple of hundred people had actually seen it. He shortened it by eighteen seconds, transformed the cackles into deepthroated chuckles, and retouched some of the other details.

Of the other four items, two were genuinely witty, one was clumsy, and one was just badtempered and insulting. He modified all of them in the same way he had modified the video. He slipped them into the message stream at points where he could be confident they would be noticed by key members of the EruLabi communion.

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Fifteen hours after Miniruta had started obstructing Ari's efforts, Savela Insdotter circulated the official EruLabi response. *Miniruta Coboloji has been an inspiration to everyone who truly understands the EruLabi creeds,* Savela began. *Unfortunately, she seems to have let her enthusiasm for our Way lead her into a dangerous course of action. We reached an agreement and Ari Sun-Dalt abided by it, in spite of all his feelings to the contrary.*

We have a civilized, rational system for resolving differences. We don't have to tolerate people who refuse to respect our procedures. We still control the communication system. We can still sever Miniruta's communication links with Athene and her manufacturing facilities on the moon, if we register our will as a community. Isn't it time we got this situation under control?

Miniruta's answer appeared on the screens of every EruLabi on the ship. Morgan wasn't included on her distribution list but an EruLabi passed it on to him. Every word she spoke validated the analysis his program had made all those decades earlier. The tilt of her chin and the tension in her mouth could have been delineated by a simulator working with the program's conclusions.

Morgan watched the statement once, to see what she had said, and never looked at it again. He had watched Miniruta abandon two groups: the original Eight and Ari's most dedicated followers. No group had ever abandoned her.

Savela's proposal required a 90 percent vote—the minimum it took to override the controls built into the information system. Anyone who had watched the ship's political system at work could have predicted Savela was going to collect every yes she needed. The proposal had been attracting votes from the moment people started discussing it—and no one had voted against it.

Morgan believed he was offering Miniruta the best opportunity he could give her. The EruLabi were not a vindictive people. A few wits had circulated clever barbs, but there was no evidence they were committed to a state of permanent rancor. Most of them would quickly forget her "excessive ardor" once she "manifested a better understanding of our ideals."

Miniruta would re-establish her bonds with the EruLabi communion within a year, two years at the most, Morgan estimated. He would once again recline beside her as they sampled teas and wines together. He would look down on her face as she responded to the long movements of his body. Miniruta was a *good* EruLabi. It suited her.

He knew he had failed when the vote reached the 55 percent mark and Miniruta started denouncing the EruLabi who had refused to support her crusade to rid the universe of "cosmic totalitarianism." The tally had just topped 65 percent when Ari advised him Miniruta's robots were vandalizing the sites she had occupied.

Fossils were being chipped and defaced. Rocks that might contain fossils were being splintered into slivers and scattered across the landscape. Five of the best sites were being systematically destroyed.

The carnage would end as soon as they cut Miniruta's communications link to the planet. But in the meantime she would destroy evidence that had survived two billion years.

Ari already had machines of his own at two of the sites Miniruta was razing. He had transmitted new orders to the entire group and they had imme-

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diately started ramming and blocking Miniruta's machines. The rest of his machines were scattered over the planet.

They had only built three vehicles that could pick up a group of exploration machines and haul it to another point on the planet. Most of the machines on the planet had been planted on their work sites when they had made their initial trip from the moon.

Morgan ran the situation through a wargame template and considered the results. As usual, the tactical situation could be reduced to a problem in the allocation of resources. They could scatter their forces among all five sites or they could concentrate on three. Scattering was the best option if they thought the struggle would only last a few hours. Concentration was the best option if they thought it might last longer.

"Give me some priorities," Morgan said. "Which sites are most important?"

"They're all important," Ari said. "Who knows what's there? She could be destroying something critical at every site she's spoiling."

Morgan gave his system an order and the three transport vehicles initiated a lifting program that would place defensive forces on all five sites. The vote on Savela's proposal had already reached the 70 percent mark. How long could it be before it hit ninety and Miniruta lost control of her equipment?

Most of the exploration machines were weak devices. They removed dirt by the spoonful. They cataloged the position of every pebble they disturbed. If the vote reached cutoff within two or three hours, Morgan's scattered defensive forces could save over 85 percent of all five sites.

Short range laser beams burned out sensors. Mechanical arms pounded sensitive arrays. Vehicles wheeled and charged through a thin, low-gravity fog of dust. Morgan found himself reliving emotions he hadn't felt since his postnatal development program had given him simple mechanical toys during the first years of his childhood.

For the first ninety minutes it was almost fun. Then he realized the vote had been stuck at 78 percent for at least fifteen minutes. A moment later it dropped back to seventy-six.

He switched his attention to his political analysis program and realized Miniruta had made an important shift while he had been playing general. She had stopped fighting a crusade against her philosophical rivals. Now she was defending Madame Dawne "and all the other elders who will have to live with the consequences of Ari's headstrong recklessness if the *Green Voyager* changes course."

"Apparently she's decided Madame Dawne offers her a more popular cause," Ari said.

Ten minutes after Miniruta issued her speech, Morgan sent five of his machines in pursuit of two of hers. He was watching his little war party drive in for the kill—confident he had her outmaneuvered—when he suddenly discovered it had been encircled by an overwhelming force. Five minutes later, the program advised him he was facing a general disaster. The "exchange rate" at all five sites was now running almost two to one in Miniruta's favor. Every time he destroyed five of her machines, she destroyed nine of his.

Ari saw the implications as soon as the numbers appeared on the screen. "She's started feeding herself enhancers," Ari said. "She's abandoning her EruLabi principles."

Morgan turned away from his screens. Memories of music floated across his mind.

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He switched to Tych, in the hope its hard, orderly sentences would help him control his feelings. "Miniruta has switched allegiances," he said. "We were incorrect when we assumed her last statement was a tactical move. She has acquired a new allegiance."

"Just like that? Just like she left us?"

"It would be more correct to say she feels the EruLabi left her."

"That isn't what you told me she'd do, Morgan."

"The programs indicated there was a 90 percent probability Miniruta would protect her ties with the EruLabi community."

"And now you're faced with one of the options in the 10 percent list instead."

A blank look settled over Ari's face. He tipped back his head and focused his attention on his internal electronics.

"Let me see if I understand the situation," Ari said in Tych. "The struggle can continue almost indefinitely if Miniruta maintains the current exchange rate. She is receiving new machines from her production units on the moon almost as fast as you're destroying them. She can continue damaging all five sites, therefore, until they are all totally demolished."

"We still have options," Morgan said. "My pharmaceuticals include enhancers I still haven't used. Miniruta outmatches me intellectually but she has a weakness. She isn't used to thinking about conflict situations. Miniruta spent the last seven decades advancing through the EruLabi protocols. She has devoted 25 percent of her total lifespan to her attempts to master the protocols."

"As for the political situation," Ari droned, "according to your best estimates, approximately 80 percent of the ship's population feel we should send a message to the solar system if we find conclusive evidence intelligent life evolved on Athene. They may not agree I should send a message now, but they do agree it should be sent if I uncover evidence that can be considered conclusive. Most of the people in the other 20 percent have been willing to submit to the will of the majority, even though they aren't happy with the idea. Now Miniruta is offering the 20 percent a tempting opportunity. They can let her destroy the evidence and avoid a decision indefinitely. They don't even have to vote. They can just abstain and hold the count on the current balloting below 90 percent. Miniruta will maintain control of her machines and the sites will be excised from the scientific record."

Ari lowered his head. "It's my opinion I should initiate one of my alternate options. Miniruta can only operate her machines as long as her apartment is connected to the ship's power supply. We will have to sever three alternate power lines to cut her link with the power system, but I believe it can be done."

Morgan stared at the screen that displayed Ari's face. He started to respond in Tych and discovered he couldn't. Ari had triggered an emotional flood that was so powerful Morgan's brain had automatically shifted to VA13.

Ari raised his hand. "I recognize that the action I'm suggesting has serious implications," he said. "I realize it could trigger off long term changes in our communal relationships. I believe Miniruta is committing a crime that ranks with the worst atrocities in history. She is destroying a message that has been waiting for us for over two billion years."

"You're talking about something that could make every passenger on this ship feel they had to arm themselves," Morgan said. "This is the first time

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I've ever heard anyone even *suggest* one passenger should attack another passenger's power connection. What kind of a life could we have here if people felt somebody could cut their power connection every time we had a conflict?"

"We are discussing an extreme situation. Miniruta could be pulverizing the only fossils on the planet that could prove Athene generated intelligent life."

Morgan stood up. "It's always an extreme situation. This time it's *your* extreme situation. Fifty years from now it will be somebody else's. And what do we end up with? A ship full of people forming gangs and alliances so they can protect themselves?"

"Is that all that matters to you, Morgan? Maintaining order in one little rock? Worrying about three thousand people hiding in their own personal caves?"

Morgan knew he was losing control of his impulses. He was behaving exactly the way his personality profile predicted he would behave. But he couldn't help himself. He was staring at someone who was unshakably convinced they were right and he was wrong. Ari could have withstood every technique of persuasion stored in the ship's databanks. What difference did it make what he said?

"*It's the rock I live in!* It's the rock *you* live in!"

Ari switched to VA13—a language he rarely used. The musical pattern he adapted colored his words with a flare of trumpets.

"I live in the galaxy," Ari said. "My primary responsibility is the intellectual evolution of my species."

Miniruta—Ari is going to cut the power lines to your apartment. This is not a ruse. It's not a threat. I'm warning you because I think he's doing something that could have a disastrous effect on the long range welfare of the ship's community—a precedent that could make the ship unlivable. You've still got time if you move now. Put on your emergency suit. Get in your escape tunnel and go all the way to the surface before he puts a guard on the surface hatch. If you start now, you could make it all the way to the communications module while he's still getting organized.

Morgan's forces attacked Miniruta's production facilities on the moon two hours after she received his warning. Her security system put up a fight, but it was overwhelmed within an hour. Every fabrication unit in her factories was brought to a halt. The rail launcher that propelled her machines toward Athene was dismantled at three different points.

Morgan had selected the most powerful intellectual enhancer his physiology could absorb. He would be disoriented for almost five daycycles after he stopped using it. He was still intellectually inferior to Miniruta, but he had just proved he had been right when he had claimed she wasn't used to thinking about conflict situations. He had taken her by surprise because she hadn't realized he had reprogrammed his lunar fabrication units and created a force that could break through her defenses.

This was the first time he had used this enhancer while he was struggling with a real-time, real-world challenge. He turned his attention to the action on the surface of Athene as if he was training a massive weapon on a target.

Miniruta's forces were still destroying his machines faster than he was destroying hers. She had spent a full hour working her way across the surface of the ship to the communications module and she had managed to maintain

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the exchange rate all the time she had been doing it. On the site closest to Athene's equator, she had taken complete control of the situation. Morgan's machines had been backed against a cliff and most of Miniruta's machines were churning up the ground and lasering potential fossil beds without resistance.

Morgan had eliminated Miniruta's source of reinforcements when he had destroyed her facilities on the moon. His own fabrication units were still turning out a steady stream of reinforcements and launching them at the planet. Sooner or later Miniruta's machines would be wiped out. Sooner or later he would be replacing his machines faster than she destroyed them. But the trip from the moon to Athene took over twenty hours. It would be almost forty hours, the charts on his screens claimed, before he destroyed Miniruta's last machine.

His brain skimmed through the plans for the vehicles that ferried equipment between the moon and the planet. Numbers and equations danced across his consciousness: payloads, production times, the weight of the reaction mass a transport vehicle forced through its engines when it braked to a landing on Athene. His fabrication units on the moon received a new set of orders and started producing transport vehicles that would make the trip in nine hours. The vehicles would carry 50 percent more reaction mass, so they could kill the extra velocity. Payload would be reduced by 30 percent.

"Somebody told her we were going to attack her power lines. She climbed out her surface escape hatch minutes before we put a guard on it. We didn't even know she'd left until she started controlling her machines from the communications module."

Ari had been speaking VA13 when he had deposited the message in Morgan's files. He had obviously wanted to make sure Morgan understood his feelings.

"There's only one person on this ship who could have warned her in time, Morgan. No one in my communion would have done such a thing. Now she's sitting in the communications module, wrecking and smashing some of the most precious information the human race has ever uncovered. And we're battering our skulls into pulp trying to break through all the weapons her friend Madame Dawne deployed around the communications module."

Morgan put his machines into a defensive posture on all five sites and held them on the defensive while he waited for reinforcements. Every now and then, when he saw an opportunity, he launched a hit-and-run attack and tried to catch one of her machines by surprise.

Ari was right, of course. The destruction Morgan was watching on his screens was one of the great criminal acts of history. Most of the fossils that had filled in the story of human evolution had come from a small area of Earth. The sites Miniruta was destroying had been selected because they met all the parameters entered into the search program. Would there be important, unfillable gaps in the record when they had explored the entire planet? Would her spree of destruction leave them with questions that could never be answered?

Morgan switched to the offensive as soon as the first reinforcements arrived from the moon. He picked the site where Miniruta was weakest and eliminated every machine she controlled within two hours. Then he picked her second weakest site and began working on it.

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He could feel the full power of Miniruta's mind every step of the way. He was making maximum use of all the help his wargaming programs could give him but he couldn't reduce the exchange ratio by a single percentage point. He was only going to defeat her because she was manipulating a finite force and he could draw on an infinite supply of reinforcements. Whatever he did, she still destroyed nine of his machines every time he destroyed five of hers.

At any given moment, furthermore, only about half her machines were actually fighting his. The rest of them were busily maximizing the destruction she was causing.

"We've lost at least 30 percent of the information we could have pulled from each site," Ari said. "On site four, we probably lost over 60 percent."

Morgan was lying on a couch, with a screen propped on his stomach. The recording of Ari's face seemed to be shimmering at the end of a long tunnel. The medical system had advised him it might be most of a tenday before he recovered from the combined effects of sleeplessness, emotional stress, and ultra-enhancement.

"I could have cut off her power within three or four hours if you hadn't interfered," Ari said. "It took you eleven hours to destroy her vehicles—*eleven hours*—even after you started getting extra reinforcements from the moon."

For the third time in less than a daycycle, Morgan was being given a rare chance to hear Ari speak VA13. This time Ari was applying the full force of a module that communicated graduated degrees of revulsion.

Morgan had made no recordings of his private moments with Miniruta. The EruLabi didn't do that. Pleasure should be experienced only in memory or in the reality of the present, the EruLabi mentors had proclaimed. There was a long period—it lasted over two years—when Morgan spent several hours of every daycycle watching recordings of Miniruta's public appearances.

Savela could have helped him. He could imagine circumstances in which Savela would have offered him a temporary bonding that would have freed him from an emotion that seemed to blunt all his other feelings. Savela was no longer friendly, however. Savela might be an EruLabi but she shared Ari's opinion of his behavior.

Morgan believed he had averted the complete political breakdown of the ship's community. But how could you prove you had avoided something that never happened? People didn't see the big disaster that hadn't taken place. They only saw the small disaster you had created when you were trying to avert the big disaster. Out of the three thousand people on the ship, at least a thousand had decided they would be happier without his company.

Once, just to see if it would have any effect on his feelings, Morgan struck up a relationship with a woman with a BR-V73 body type. The woman was even an EruLabi. She had never advanced beyond the second protocol but that should have been a minor matter. Her body felt like Miniruta's when he touched it. The same expressions crossed her face when they practiced the EruLabi sexual rituals. There was no way he could have noticed any significant difference when he wrapped himself around her in the darkness.

Ari's sexual enhancement was another possibility. Morgan thought about it many times during the next two decades. He rejected it, each time, because there was no guarantee it would give him what he needed. The enhancement only affected the most basic aspect of sexual desire—the drive for simple

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physical release. It didn't erase memories that included all the hours that had preceded—and followed—the actual moments when their bodies had been joined.

He had made eight attempts to contact Miniruta during the three years that had followed their miniature war. His programs still monitored the information system for any indication she was communicating with anyone. A style analysis program occasionally detected a message Miniruta could have created under a pseudonym. Every example it found had been traced to a specific, identifiable source. None of the authors had been Miniruta.

He had sent two queries to Madame Dawne. The second time, she had appeared on his screen with hair that was so short and so red she looked like someone had daubed her skull with paint. The language she had used had been obsolete when the *Island of Adventure* had left the solar system.

"Please do not think I am indifferent to your concern," Madame Dawne had said. "I believe I can inform you—with no likelihood of exaggeration or inaccuracy—that Miniruta finds your anxieties heartwarming. Please accept my unqualified assurance that you can turn your attention to other matters. Miniruta is a happy woman. We are both happy women."

Morgan had deleted the recording from his files two tendays after he received it. He had given his profiling program a description of Miniruta's latest transformation. Miniruta had changed her allegiance three times in the last one hundred and fifteen years. There was a possibility her affiliations were episodes in an endless cycle of unions and ruptures, driven by a need that could never be permanently satisfied. The program couldn't calculate a probability. But it was a common pattern.

In the meantime, he still had his researches. He had picked out three evolutionary lines that looked interesting. One line had apparently filled the same ecological niche the pig family had exploited on Earth. The others raised questions about the way predators and prey interacted over the millennia.

They were good subjects. They would keep him occupied for decades. He had now lived over three hundred years. Nothing lasted forever. He had his whole life ahead of him. O

Asimov's Science Fiction is published monthly, except for a combined October/November double issue, by Dell Magazines, a division of Crosstown Publications, 475 Park Avenue South, New York, NY 10016; shareholders owning 1 percent or more are Penny Press Inc., Selma, William, John, James, and Peter Kanter, 6 Prowitt St., Norwalk, CT 06855-1220. There are no mortgages or other security holders. Total average copies printed: 58,408; total paid circulation: 47,255.

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THE WATCHERS

The autumn coyotes weep
in the fallow fields.
The road is black and endless,
a desolate story waiting to be told.
For awhile there is only
the wake of stars and
an owl's wings imitating the pulse
of night.
Then the chill shadows open their eyes
and turn
and look my way.

—Wendy Rathbone

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ON BOOKS

Paul Di Filippo

Grief is a Hunger

You might start with Stephen Crane's *The Red Badge of Courage* (1895), that undeservedly detested bane of high-schoolers everywhere. That novel's youthful protagonist facing the near-surreal horrors of war set the pattern for a certain kind of story: innocence swept up in the violent chaos attendant on the clash of larger, half-understood forces. Gunter Grass's *The Tin Drum* (1959) added magical realism to the mix. But the next literary milepost in this journey retreated a bit from the fantastic toward brutal candor.

Jerzy Kosinski's *The Painted Bird* (1965), based in part on Kosinski's own experiences during WWII, was the first-person story of a nameless six-year-old boy separated from his parents and forced to wander in the almost medieval peasant world of rural Poland. Handed off from one ignorant, cruel foster parent to another, the narrator eventually lost his power of speech after being tossed into a cesspit. Even with the end of the war, his alienation—his status as a "painted bird" among the natural-plumaged flock—persisted.

Most recently, J.G. Ballard's *Empire of the Sun* (1984) conveyed this same sense of war itself as the true parent of all unfortunate children caught up in its whirlwind embrace.

Now arrives Jack Dann's *The Silent* (Bantam, hardcover, $23.95, 279 pages, ISBN 0-553-09716-4), a very credible heir to this illustrious lineage.

Dann's book opens in Virginia in the year 1862. Mundy McDowell, a thirteen-year-old farmboy, stays home one Sunday morning while his parents go to church. By such a simple act is his fate sealed. Leaving the house to watch a nearby skirmish between Northern and Southern troops (the raging war interpenetrates daily living with queasy congeniality), Mundy spends an unplanned harrowing day amidst the stench of gunpowder and the cries of the dying. At one point, he encounters a local slave, Jimmadasin, who offers some aid. But this protector too is torn away, and when Mundy finally manages to return home it is to witness the death of his parents and the torching of his house.

Now begins the boy's seemingly endless hellish torment. Literally voiceless from grief, stumbling from one bellicose engagement to another, Mundy becomes a kind of Parsifal, a wandering holy fool or spirit whom others seek to possess as a talisman. Through battles large and small, across the turbulent Virginia countryside he wanders, in and out of military camps, households teetering on the edge of disaster, and the hangouts of runaway slaves and deserters. His eventual rescue by an uncle after months of torture is less an end to his plight than a small respite.

Dann accomplishes the near-impossible here. Mundy's first-person voice retains a kind of charming hallucinatory inviolability, despite detailing the horrors of war in deep verisimilitude. The boy's untutored narration is simultaneously homespun and poetic. Mundy's insistence on interpreting events according to his self-created theology—a mix of Christianity and slave myths—imbues the book with some of the same

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mystical fervor found in Russell Hoban's *Pilgermann* (1983).

Mundy's paradoxical insistence at several points that his sufferings make him "feel free" echoes the same point made by Ballard's alter ego, young Jim. In such Boschian landscapes, when the veils of normality have been ripped aside, a person may confront existential truths that shatter all chains of servitude to the falsities of reason. Dann's creation of Mundy McDowell and his excruciations bring to the page a burning vision seldom afforded to us hearth-hugging civilians.

Myth of the Long Man

Let's stay in the same historical period as the Dann book for a while.

In 1997 Loren Estleman released his *Billy Gashade*, another tale of a youth separated from his parents by civil unrest and forced to grow up quickly. The title character—a mythic musician mentioned briefly in an American ballad, for whom Estleman proceeded to invent a whole rich life—recounts his tumultuous career from the vantage point of his eighty-eight years. Sent to the western frontier as a teenager in 1863, Billy meets nearly every famous figure present in the region, from Jesse James to Crazy Horse, all the while undergoing thrilling adventures. Narrated in easy, rolling cadences, Billy's tale fascinatingly encapsulates a large segment of our nation's history as wild and woolly as the buffaloes Billy learns to hunt. At the same time, Estleman develops Billy as a distinct individual, all-too-human in both his failings and courage. Without supernatural content, this book nonetheless reads like a fantastic picaresque.

From offstage in *Billy Gashade*, we hear of the death of Billy the Kid under the guns of Pat Garrett. Now Estleman has expanded this incident—along with the rest of Garrett's amazing life—into a whole book. *Journey of the Dead* (Forge, hardcover, $21.95, 251 pages, ISBN 0-312-85999-6) recounts Garrett's big moment of fame and how it shadows and blights the rest of his life (for Garrett is forever after haunted by the undeniably real ghost of his victim, alternately chatty and menacing). A curious counterpoint is provided by the presence of an anomalous figure: a hundred-and-fifty-year-old Spanish alchemist-hermit named Francisco de la Zaragoza. The alchemist, like Carlos Castaneda's Don Juan, functions as a wizardly advisor whom Garrett visits during times of crisis. Because Zaragoza's chapters are told in the first person, one eventually comes to believe that Garrett's life story is also being filtered through the old man's perceptions, a fact confirmed by novel's end. As the two disparate lives come to a close—one cloistered and philosophical, the other immersed in action and instinctive—the reader's perceptions of who has won and who has lost in the game of mortality are flipped and transfigured.

That the death of Billy the Kid occurs before page fifty informs us of how much more there was to Garrett's life beyond this climactic moment. Estleman succeeds in making the subsequent events of his rangy, long-limbed hero's life—whether chasing other outlaws or chasing votes—as intriguing as that one pivotal gunsmoke moment, employing tight prose that's alternately suspenseful and raunchily humorous.

Estleman reminds me of two strong genre writers: Roger Zelazny, especially that writer's *Wilderness* (1994), and Joe Lansdale, as exemplified by Lansdale's "The Big Blow." Mixing the high concerns of myths with trivial daily pains and joys, Estleman creates a landscape populated with creatures both human and godlike. This novel reads the way a

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melancholy late-period Bob Dylan song sounds: sparse, honed, weary, and wise.

Ex-Brady Bunch Boy Meets Satan

Marty Burns is one sour apple. He never lets you forget that life sucks, especially for him, a guy who once had it made. An adolescent TV star in the late sixties, Burns has since hit the skids, becoming in adulthood a low-rent private investigator. He's picked up a drinking problem and a brutal and cynical outlook that matches his tawdry environment: anything-for-a-buck Los Angeles and Hollywood. Aimlessly drowning his sorrows, he stumbles from one day to the next without hope or vision, venting a constant stream of cutting remarks—admittedly amusing in a coarse manner—against himself and others, like some off-brand Howard Stern.

But you know what? This guy grows on you! Like the office kvetcher and whiner, he ingratiates himself by sheer idiosyncratic persistence.

Marty Burns sprang to life in *Celestial Dogs* (1997), the debut novel of J. S. Russell. There, Burns had the misfortune to fall into a case with supernatural dimensions. A Hollywood producer named Jack Rippen had made a deal with a Japanese cult determined to unleash a plague of ancient demons on mankind. Pushing through one murderous occult encounter after another with sheer dogged stubbornness, Burns eventually gets his man and saves the world, in the process gaining renewed self-respect and another shot at the Good Life (at least as defined by the movie biz). Russell's first book read like a conflation of Ron Goulart and Ronald Anthony Cross, with a little James Crumley tossed in, and provided plenty of ironic humor and PI action.

Now Burns is back, in *Burning Bright* (St. Martin's, hardcover, $23.95, 280 pages, ISBN 0-312-18545-6). He's mellowed a little with success—the title of the novel refers to Burns's new Fox TV series, awarded to him after his last adventure—but he's still at heart an old reprobate, capable of emptying a hotel mini-bar faster than you can say "The studio will pay for it." Now on a publicity tour in England, Burns impulsively intervenes in a petty racial assault while slumming one day, and quickly finds himself swept up in a war between murderous white-power Odinists calling themselves the Ultima Thule, and the ragtag forces of benevolent multiculturalism. Both camps are intent on co-opting the assorted mystical resources of Britain, and Burns enlists on the side of the good guys. Soon, an off-kilter Tolkienish quartet—"a crusty midget, an Indian woman, an Irish dyke and an American TV star"—are galloping over England's ley lines, their quest culminating deep under London.

While still entertaining, *Burning Bright* strikes me as a little thinner or less fresh than its predecessor. Marty's fish-out-of-water nature renders most of his Hollywood savvy less than pertinent. The Ultima Thule is a faceless opponent, with no charismatic leader corresponding to Jack Rippen to carry the mantle of evil. Uma Dharmamitra, Indian wise-woman, is a less seductive presence than *Celestial's* street-savvy Rosa Mendez. And the new book's ending broadly replicates the previous one's.

Still, if you follow Marty into reruns, you'll be able to savor the adventures of this supernatural gumshoe once more.

Spacetime Through Springers

In novels such as *Mother of Storms* (1994) and *Kaleidoscope Century* (1995), John Barnes has delivered postmodern *frissons* of a sophistica-

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tion and complexity to match anything by Paul McAuley or Stephen Baxter. At once despairing and hopeful, romantic and hard-nosed, Barnes represents in these books the future of Heinleinian extrapolation the same way "Loser" Beck carries forward the work of Bob Dylan while slicing and dicing it.

But Barnes shows another side in his latest novel, *Earth Made of Glass* (Tor, hardcover, $25.95, 416 pages, ISBN 0-312-85851-5). This book is a deliberately old-fashioned excursion into territory made famous by Eric Frank Russell, Keith Laumer, James Schmitz, Christopher Anvil, and the all-but-forgotten H. B. Fyfe (Fyfe's primitive *D-99* [1962] is a plywood cousin of Barnes's chrome-adorned book). While still proffering some vigorous speculations, here Barnes is more concerned with sporadic adventures against a frieze of diplomatic intrigue.

Earth sequelizes *A Million Open Doors* (1992). In that book, we were introduced to the Thousand Cultures scenario. Several centuries from our time, mankind has spread across thirty-one planets by slower-than-light dissemination, producing 1,238 officially recognized cultures. A short time before the opening of *Doors* came the invention of the springer: an instantaneous gate between any two points. Once the interstellar springer system snapped into place, the Council of Humanity found it had to manage the reintegration of all these formerly isolated cultures into a reunified whole. The Office of Special Projects, headed by a mystery man named Shan, is a black-budget agency with the responsibility of pulling strings overtly or covertly to insure that all the cultures fall neatly into their allotted place.

Our protagonist, Giraut Leones, started as an average citizen of an easy-going troubadour culture. Swept up in the machinations of the Office of Special Projects, he superintended a revolution on a foreign planet, where he met his wife-to-be, Margaret. By the end of *Doors*, both had become official agents of the OSP, committed to furthering the aims of the paternalistic Council.

Earth opens a decade onward. Giraut and Margaret are now seasoned veterans. But life is not smooth. The idealism of their youth has been burnt out by hard experience. Additionally, their personal relationship is on the rocks. Always working as partners, the two are assigned to the planet Briand, the most incorrigible holdout against the plans of the Council. This physically hostile world is host to two warring cultures: one based on the historical Tamils of the Indian subcontinent, and one on the Maya. Giraut and Margaret must attempt to forge bonds between the two isolationist societies and the rest of humanity. They seem to be making progress until the arrival of a Krishnamurti-like Mayan prophet named Ix. His preaching eventually ignites a planetwide cataclysm in which all precariously balanced plans come to an unanticipated conclusion.

Barnes builds an intriguing planet and fully limns his two throwback societies. He tosses out interesting speculations about the impact of an economy of abundance. And the emotional plight of his characters is affecting. But Barnes succumbs to a little bit of obtrusive cultural fudging to heighten his effects: in a universe of nanotechnology and engineered lifeforms, there's no cure for baldness, no cosmetic body-sculpting, no anti-high-gee bodily modifications? Also, the big secret about Margaret's affair with a Briand native—held back until the end in order to startle the reader—is utterly obvious early on. But the slow development of the relatively uncomplicated plot, so dif-

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ferent from Barnes's slam-bang pace elsewhere, formed the main hindrance to my full enjoyment of this book.

The next open door Giraut Leones steps through, I'm confident, will lead to a zippier place.

Everything Turns Out Swell

I don't know about you, but I regard the world with a little brighter glint in my eye and more pep in my step, knowing I have a new Philip José Farmer book in hand. Having just turned eighty last year, Farmer miraculously retains the wild-eyed exuberance and yeasty talent of his youth. His newest, *Nothing Burns in Hell* (Forge, hardcover, $22.95, 287 pages, ISBN 0-312-86470-1) is a mystery novel that reveals itself to be a direct descendent of his outrageous *The Image of the Beast* (1968) and *Blown* (1969), although admittedly featuring less sex and somewhat muted violence. The ultimate effect is as if the Coen Brothers film *The Big Lebowski* (1998) had been captured in vibrating print.

Thomas Gresham Corbie, our narrator, is a private investigator in Farmer's own contemporary Peoria, Illinois, and is married to a lovely, fiery Wiccan named Glinna. A mean hand with both a pistol and a metaphor, Corbie exhibits a fairly flexible morality, to put it mildly, being not disinclined toward some preemptive mayhem when circumstances demand. In the course of this book, his slippery ethics will eventually deliver him into the hands of his enemies, naked, bound, gagged, and at the point of imminent death. His survival and passage into greater wisdom rides not only on his own brawny shoulders, but, ultimately, on the good deeds he's scattered along his bloody path.

Assisting an enigmatic female client as she attempts to make a bribery payoff, Corbie stumbles into a web of generational deceit and hillbilly treachery. Moving away from this one-off assignment (or so he thinks) to deal with the convoluted relationships among the rich and influential Alliger family, he uncovers multiple murder plots all culminating in one night of exacting trial. As with the best Ross Macdonald fiction, all seemingly unrelated threads eventually lead to the same spider's nest.

The language here is funny, vivid, and fresh, following the best *noir* traditions. Every page contains something quotable: "The President looked old enough to have created the Big Bang." "[The house] looked like an enormous white box which was still not large enough to contain all the troubles and woes of the owners." "[Her] perfume was delicate and at the same time with the hint of an odor like a tiger in ambush." The one infelicity I would cite is the description of the young woman druggie-type wearing a "granny dress." But such a minor off-note barely registers amid such unique lines as "How much free will does a pumpkin have?"

At one point, the reflective Corbie says, "I like most people—those poor wretches—very much, and I'm very interested in those I loathe." You'll feel the same about Farmer's intriguing cast.

Yama's Destiny

Tales of the very far future occupy a small but classic niche in SF. Incredibly distant from our earthly era in time and possibly in space as well, these venues guarantee maximum estrangement, typically featuring dregs of superscience akin to magic, vast tapestries of backstory, entropic ennui, and exotic characters. Sometimes, as history bites its own tail, archaic conditions paradoxically arise, making these novels read like period fantasies. Jack Vance and

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Gene Wolfe, of course, spring immediately to mind as exemplary writers in this mode. But what's often forgotten is that one of the earliest books to crystallize this vision (outside the pages of the pulps) was Clarke's *Against the Fall of Night* (1953). Now one of Clarke's countrymen, the estimable Paul J. McAuley, steps forward to show us that new changes can still be rung on this scenario.

Billed as "The First Book of Confluence," *Child of the River* (Avon Eos, hardcover, $14.00, 306 pages, ISBN 0-380-97515-7) is the tale of Yamamanama, whose name, generally shortened to Yama, means "Child of the River." This appellation stems from Yama's first appearance, as a castaway infant found in an enigmatic ship adrift on the planet-spanning river of the world known as Confluence. This failing world itself is one of McAuley's major characters. Its form hazily apprehended by its natives, Confluence is an artifact created by the Preservers and their assistants, the Builders. The planet seems to be a flat platform or other oddball structure, the ultimate shape and import of which McAuley discloses only gradually and incompletely. For his part, Yama appears to be the first Builder individual to be seen on this planet of ten thousand engineered species for many generations. His quest involves forsaking his foster father and friends and traveling from his quiet village of Aeolis to the city of Ys in order to uncover his roots and purpose. From this simple linear movement, McAuley hangs many a curious and exciting adventure, ending this volume of Yama's maturation on a cliffhanger note.

McAuley's prose here is folklorically unadorned, yet microscopically evocative in its descriptions. He paints the world of Confluence in gorgeous hues, rendering it a mix of Haroun al-Raschid's Baghdad and British Imperial Calcutta beneath a sky of technology-harnessed suns. McAuley seems determined to pay homage to all his predecessors in this vein: besides echoes of Vance, Wolfe, and Clarke, he pulls in hints of Silverberg's Majipoor, Paul Park's Starbridge series, Liz Hand's trilogy that began with *Winterlong* (1990), and even perhaps Delany's Nevèrÿon. This is a technically deft tribute or synthesis that rises above its acknowledged influences. But McAuley never succumbs to mere pastiche. Yama's maturation, deliberately modeled on Joseph Campbell's Monomyth, exhibits the story-telling verve of Dickens or Robert Louis Stevenson. In a typically thrilling scene, such as the battle between Yama and two oafish thugs in an ancient tomb, McAuley conveys pure narrative zest.

Child of the River will leave you stranded in a distant eon, but happily awaiting the next barque down the stream.

With a Walkman Through the Ruins

In 1995, Stephen Baxter produced the "official" centennial successor to Wells's *The Time Machine* (1895), *The Time Ships*. Now arrives another oddly angled associational item to Wells's classic, Ronald Wright's *A Scientific Romance* (Picador USA, hardcover, $23.00, 352 pages, ISBN 0-312-18172-8). You could ask for no greater proof that the same inspiration, processed through different creative minds, can produce widely varying results than these two books. Whereas Baxter's novel was a wide-ranging, audacious, nearly pulpish adventure and a literal sequel, Wright's book is a narrower, quieter, "literary" work and not a direct taking-up of Wells's narrative. Yet the two books both manage superbly, in their own style, to convey the immense weight of time and the

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excitement and terror associated with jumping out of one's own era.

David Lambert is a forlorn archaeologist specializing in Victorian industrial oddities. A loner by nature, he has never emotionally recovered from his only major love affair, an intense two years with one of his peers, Anita Langland. Many years after their split, Lambert learns that his ex-lover has succumbed to Creutzfeldt-Jakob Disease, and that he too has contracted the "mad-cow" killer bug. In parallel with this life-altering discovery, Lambert comes upon a deathbed letter written by Wells himself. The letter reveals that there existed a real-life model for Wells's fictional time-traveler, a Victorian scientist named Tatiania Cherenkova, and that a century ago she departed in her own time machine for the far-off year of 1999, Lambert's present. Tracking down the current location of Cherenkov's lab, a shabby deserted flat, Lambert is waiting when her Victorian machine arrives, mysteriously empty. Now he becomes its owner.

Lambert decides to flee the present for a day five hundred years from 1999, when presumably science will have a cure for his disease. He makes his preparations, and with the aid of a friend named Bird, casts off into the river of time. Much to his astonishment, he arrives in an empty London gone to seed. Jungle growth and a tropical climate have rendered England a mysterious green riot without a sign of humanity. Armed with a gun, his Walkman, some rugged shoes, and the mute friendship of a London puma he names Graham, Lambert sets off in search of answers. Using his professional training, he eventually learns enough of humanity's sad fate to satisfy his mordant curiosity. (Bird's ironic five-century-old end is a late-breaking surprise development.) After sharing adventures I shan't reveal, we leave Lambert climbing back into his machine, his new destination a past he hopes to change for the better.

Wright's portrayal of his protagonist—effectively alone onstage for large portions of the book—is deep and believable. The first-person narration is intercut with flashbacks and poetic musings that add up to a fully three-dimensional portrait. Lambert becomes an intensely identifiable-with person, someone who you feel is equal to the task of recording humanity's inglorious demise. Imperfect yet always game, Lambert succeeds in making the reader do what he himself must do: learn to love a once-despised humanity all over again in the face of its defeat.

Amazingly, this is Wright's first work of fiction; several of his other books have been travel memoirs, and *A Scientific Romance* could legitimately count as an extension of that genre. But nonetheless, Wright's novelistic handling of action and character are practically flawless. Moreover, he's well-versed in the canon of postapocalypse SF, from Morris to Shiel, and alludes to several earlier classics, integrating them into his book, which is a sheer pleasure to read. Consider this sample of his sensuous and sturdy prose:

> Those birds are gone, their places taken by egrets, snail-kites, herons, a morose synod of vultures in a dead tree. Lizards and parrots stir the foliage, the nostrils of floating crocodiles pimple the surface [of the river] like paired bubbles, and there's a thick fermenting sweetness in the air from windfall mangoes on the bank.

Partaking of Lambert's journey through the hothouse language shrouding our shattered civilization

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is pure romance. Hop onboard before this Chronic Argonaut dematerializes!

Catch Us If You Can

From DC comics come two offerings sure to appeal to the mature SF reader. *Toxic Gumbo* ($5.95, 48 pages, ISBN 1-56389-347-9) was written by Lydia Lunch, pop polymath most famous for her music. It's the hallucinogenic swamp-gothic tale of Onesia, an easily goaded angry young woman cursed from birth with poisoned blood like Hawthorne's Miss Rappaccini. In rich language veering from Kathy Acker to Kathe Koja, Lunch charts the travails of her half-mad orphan. Ted McKeever's brilliant jagged art hits peaks previously scaleable only by George Grosz.

Warren Ellis's *Transmetropolitan: Back on the Street* ($7.95, 72 pages, ISBN 1-56389-445-9) collects under one cover the first three issues of the same-named periodical comic. In an extremely funky, satirically slanted future city, mad-dog journalist Spider Jerusalem recapitulates and extends the career of the infamous Hunter S. Thompson, battling the tyrants of his time—including disrespectful clerks and aggressive editors—with bile, wit, and copious pharmaceuticals. The bright, bold art of Darick Robertson would make Ralph Steadman nod appreciatively.

Who qualifies as "the Japanese John Williams"? That mantle, argues a recent CD's liner notes, might very well fall to composer Akira Ifukube, the man responsible for the majority of the Godzilla movie scores. A classy sampling of his work—and that of several other allied composers—is to be found on *The Best of Godzilla* (GNP Crescendo, CD, $14.95, GNPD8055). By turns silly and scary, majestic and pompous, ethereal and earthy, spacey and antique, this music radiates intelligence and zest. I'm putting this CD on the shelf right next to my Carl Stalling and Nino Rota compilations.

Tachyon Publications delivers a winning read with *The Boss in the Wall* (trade, $12.00, 122 pages, ISBN 0-9648320-9-7), and earns kudos for venturesome publishing as well. The first posthumous offering from Avram Davidson, this short novel was completed and polished by his ex-wife, Grania Davis, a fine solo writer herself. Two introductions—one by Peter Beagle and another by Michael Swanwick—round out the volume. The story concerns a piece of recondite folklore, and how it impacts the lives of several characters, notably Professor Vlad Smith and his family. After purchasing an old house, Smith painfully learns of the existence of the malign "Paper Men," desiccated half-alive creatures who inhabit the wall spaces of certain ill-omened buildings. Recounted seamlessly in Davidson's elliptical, arch, apocryphal manner, this tale extends feelers toward Tim Powers's California ghosts and James Blaylock's cranky eccentrics, while always reminding us what a unique species Davidson himself was.

Fuse the Alfred Bester of such quirky pieces as "Of Time and Third Avenue" and the Roger Zelazny of late-period works like *A Night in the Lonesome October* (1993), and you'll have some idea of the charms of *Psycho Shop* (Vintage Books, trade, $12.00, 207 pages, ISBN 0-679-76782-7). Completed by Zelazny from a manuscript left hanging by Bester upon his death, this dialogue-rich novel warps and perverts the familiar "magic shop" trope with pizzicato piquancy. Reminiscent in its staginess of Leiber's *The Big Time* (1961), this lively read revels in Sheckley-style paradox. Not as groundbreaking as either author's best work, *Psycho Shop* nonetheless offers its own nostalgic rewards.

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The poems in Steve Utley's *This Impatient Ape* (Anamnesis Press, chapbook, $5.95, 43 pages, ISBN not available) range from wryly comic to philosophically austere to ruefully wise. Clusters of poems reflect on prehistory, astronomy, physics, and alternate worlds, all subjects dear to those possessing a shred of a sense of wonder. Utley employs simple yet meticulously hand-crafted language, hitting his mark precisely each time. Allow me to quote an entry called "Gravity" in its totality: "Gravity is weak,/but it is everywhere and,/oh, so diligent."

Bruce Boston the Storyteller (close cousin to Boston the Poet) weighs in formidably with *Dark Tales & Light* (Dark Regions Press, chapbook, $6.95, 68 pages, ISBN 1-888993-15-4), a recent assortment of ten gems. Three entries in the "Accursed Wives" series detail a few of the many ways love can fantastically derail. "Pest Control" resembles early PKD in its surreal alien invaders. And parody reigns in "Pulp Woman Gets Her Man" and "Striker Out." As always, Boston parcels out his words with economy and bold flourishes.

Lovers of the macabre and surreal, fans of the stylish grue of Clark Ashton Smith and Jeff Vandermeer, Michael Shea and Thomas Ligotti, should all rush to purchase Albert Manachino's *Noctet* (Argo Press, trade, $14.95, 189 pages, ISBN 0-9634181-3-0), whose illustrations by Larry Dickison combine the best of Edd Cartier and Hannes Bok. This story collection centers around the doings of psychic investigator Virgil Hood, resident of the Boschian planet named Madonna-Moloch, a world where nothing ever really lives but nothing ever really dies. Under the lugubrious twin suns and the moon hight Rackingham, Hood solves mysteries involving odder doings than anyone has seen this side of M. P. Shiel's *Prince Zaleski* (1895). Let the Praying Damsels of Madonna-Moloch cocoon you immediately in their somnolent threads.

John Shirley's story collection, *Black Butterflies* (Ziesing Books, trade, $16.95, 252 pages, ISBN 0-929480-86-4), is strong literary medicine for our brutal era. Divided into two parts, a mimetic "This World" and a magical "That World," this gorgeously designed book (*muy simpatico* artist John Bergin illustrates cover and interior) brims with hookers and hustlers, thieves and suicides, crooked cops and gleeful psychos, like a foaming cup of Dr. Jekyll's nastiest brew. Shirley positions himself firmly on the continuum that runs from Jean Genet through James Leo Herlihy to Barry Gifford. In "Delia and the Dinner Party" he sounds like Henry Kuttner on wormwood. And "How Deep the Taste of Love" out-Farmers PJF himself. Like the black butterfly tattoo on the ankle of bad-news Marla in "What Would You Do for Love?", John Shirley's name on the spine of a book announces gory trouble ahead—and still you can't resist.

An atypically macabre yet quintessentially stylish Eggleton cover graces Brian Lumley's *A Coven of Vampires* (Fedogan & Bremer, hardcover, $27.00, 228 pages, ISBN 1-878252-37-2). Musty skulls all in a row lure the reader into the grip of thirteen vampire tales, all exhibiting Lumley's ingenuity and authorial slyness. In none does Lumley trot out the clichéd Count; instead he gives us vegetal parasites, movie-house cannibals, and life-force-draining mutants. Veering from sword-and-sorcery ("The Kiss of the Lamia") to Lovecraftian pastiche ("The Thing from the Blasted Heath"), Lumley never relents in his quest to turn old legends on their heads and shake out their pockets for the hidden change of meaning.

A panoramic collection indeed is

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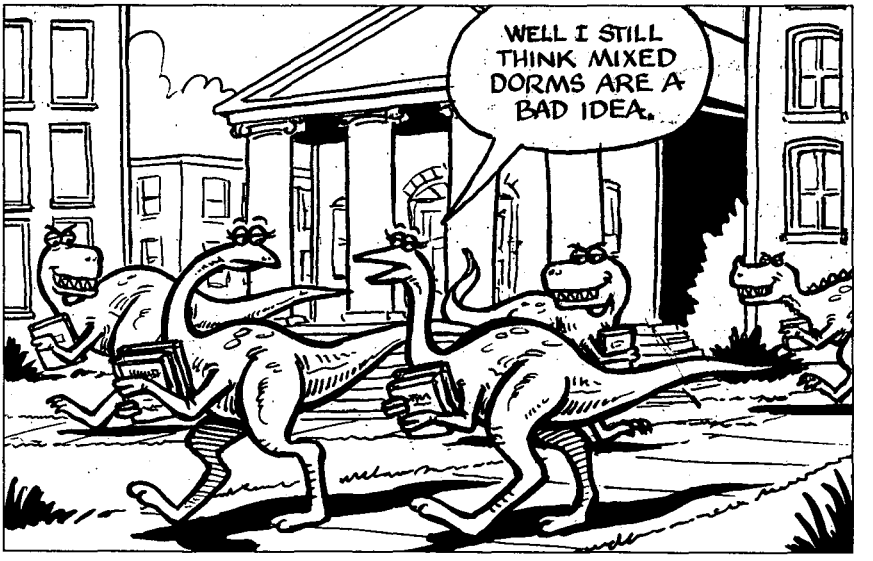
Walter John Williams's *Frankensteins and Foreign Devils* (NESFA Press, hardcover, $23.00, 379 pages, ISBN 1-886778-04-4). Whether trolling cyberspace, as in "Solip:System," or delving into landscapes of meat, as in "Erogenoscape," Williams exhibits cunning, dexterity, and tenaciousness. I was particularly enchanted by one of the two original stories herein, "The Bad Twin," a twisted time-travel caper that nearly approaches David Gerrold's *The Man who Folded Himself* (1973). With a foreword by our own Gardner Dozois and boldly sensual inkings by Omar Rayyan, this volume merits your attention.

Like the Davidson volume above, *Flowers from the Moon and Other Lunacies* (Arkham House, hardcover, $22.95, 296 pages, ISBN 0-87054-172-2) is the first posthumous appearance by the legendary horrific humorist Robert Bloch. The stories in this volume are rarities from the thirties and forties, and will reward your indulgence with arcane quiverings. The entries from the forties show a quantum leap in Bloch's skills and assurance, with the strongest being "Black Bargain," where gritty verisimilitude hides a supernatural taint. A surprisingly politicized "The Night They Crashed the Party" reveals Bloch as no head-in-the-sand fantasist, but a man very much of this world—and several others!

Publisher addresses: DC Comics, 1700 Broadway, NY, NY 10019. GNP Crescendo, 8480-A Sunset Blvd., Hollywood, CA 90069. Tachyon Publications, 1459 18th Street #139, SF, CA 94107. Vintage Books, 201 East 50th St., NY, NY 10022. Anamnesis Press, POB 51115, Palo Alto, CA 94303. Dark Regions Press, POB 6301, Concord, CA 94524. Argo Press, POB 4201, Austin, TX 78765. Ziesing Books, POB 76, Singletown, CA 96088. Fedogan & Bremer, 3721 Minnehaha Avenue South, Minneapolis, MN 55406. NESFA Press, POB 809, Framingham, MA 01701. Arkham House, POB 546, Sauk City, WI 53583. O



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NEXT ISSUE

MARCH COVER STORY

R. Garcia y Robertson has made something of a specialty of adventure writing, and, in fact, may be one of the very best in the business when it comes to turning out vivid, headlong, fast-paced, colorful, inventive, swashbuckling, and yet keenly intelligent adventure stories. And he returns next month at the top of his form with our March cover story, "Diana By Starlight," a big, brawling, thrill-packed new novella that takes us to a frontier planet in company with an intrepid agent determined to investigate political corruption there in the face of almost suicidal odds, and who finds herself from the very first page running a gauntlet of spaceship crashes, deadly attacks, abductions, and desperate hairsbreadth escapes, as she tries to deal with strafing ultralights, ominous cruising Zeppelins, corrupt government officials, sinister conspiracies, attempted genocide, full-scale pitched battles on the steppes, rhinos the size of Brontosaurs—AND handsome and seductive Neanderthals as well! This is pure science fiction entertainment at it's best, so be sure not to miss this one! The evocative cover is by Michael Carroll.

TOP-FLIGHT WRITERS

Hot British "hard science" author **Stephen Baxter** shuttles us through millions of years of future history for a poignant, Stapledonian vision of the ultimate fate of a bit of cosmic "Spindrift"; multiple Nebula-winner **Esther M. Friesner,** in a change of pace from her more usual Funny Stuff takes us to a high-tech future Japan for a study of the ultimate meaning of loyalty, in the powerful "Chanoyu"; **Rick Shelley,** long a mainstay of our sister magazine, *Analog,* makes a compelling *Asimov's* debut with a look at the unexpected and possibly grave consequences for all humanity of a meeting with "The Alien"; **Mark W. Tiedemann** returns to ask the unsettling question, what if the past you remember turns out not to be the past everyone else remembers?, and goes on to explore the fragility of the barrier between worlds, in the haunting "Gallo"; and new writer **Miriam Landau,** making her *Asimov's* debut (and her very first sale), eloquently explores the deadly conflicts and tensions that can erupt between "Allies"— even those facing death together on a strange new world.

EXCITING FEATURES

Robert Silverberg's "Reflections" column offers us some "More Thoughts About the End of the World"; **Norman Spinrad's** "On Books" column turns a critical eye on "The Pulp Traditions"; and **James Patrick Kelly's** Internet column, "On the Net," takes a comprehensive look at "Which Way?" the online community may be going; plus an array of cartoons, poems, letters, and other features. Look for our March 1999 issue on sale on your newsstand on January 26, 1999, or subscribe today (you can now also subscribe electronically, online, at our *Asimov's* Internet website, at **http://www.asimovs.com**), and be sure that you miss none of the great stuff we have coming up for you in 1999! And keep in mind, a subscription to *Asimov's* makes a great Christmas gift, too!

COMING SOON

great new stories by **Eleanor Arnason, Robert Reed, William Barton, Kage Baker, David Marusek, Brian Stableford, Tony Daniel, Kristine Kathryn Rusch, Eliot Fintushel, Gregory Feeley, Jane Yolen, Tom Purdom, Andy Duncan,** and many others.

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SF CONVENTIONAL CALENDAR

by Erwin S. Strauss

With the holiday lull coming up, here's a look at the schedule for all Winter. Plan now for social weekends with your favorite SF authors, editors, artists, and fellow fans. For an explanation of con(vention)s, a sample of SF folksongs, and info on fanzines and clubs, and how to get a later, longer list of cons, send me an SASE (self-addressed, stamped #10 [business] envelope) at 10 Hill #22L, Newark NJ 07102. The hot line is (973) 242-5999. If a machine answers (with a list of the week's cons) leave a message and I'll call back on my nickel. When writing cons, send an SASE. For free listings, tell me of your con 6 months out. Look for me at cons behind the Filthy Pierre badge, playing a musical keyboard.—Erwin S. Strauss

JANUARY 1999

1–3—**EveCon.** For info, write: **1607 Thomas Rd., Ft. Washington MD 20744.** Or phone: **(301) 292-5231** (10 AM to 10 PM, not collect). Con will be held in: Frederick MD (if city omitted, same as in address) at the Holiday Inn Holidome. Guests will include: no big names are planned. Gaming, general weirdness and fun.

2—**Creation. (818) 409-0960.** Plano Center, Plano (Dallas) TX. Creations are commercial media-oriented events.

8–10—**GAFilk, 2715 Lenox Rd. #B-5, Atlanta GA 30324. (404) 321-2112.** Ramada Airport South. SF/fantasy folksinging.

8–10—**Galileo 7, Anmeldung, Danziger Str. 13, Langelsheim 38665, Germany. (05326) 929139.** Bremen Germany. Star Trek.

14–17—**FURther ConFusion, 336 Dale Dr., San Jose CA 95126.** Westin, Santa Clara CA. Anthropomorphics (furries).

15–17—**Arisia, 1 Kendall Sq. #322, Cambridge MA 02139. (E-mail) info@arisia.org.** Boston MA. R. Allen, Nielsen-Haydens.

15–17—**ChattaCon, Box 23908, Chattanooga TN 37422. (423) 842-7130.** Clarion River Plaza. J. Barnes, Hambly, Sterling.

15–17—**RustyCon, Box 84291, Seattle WA 98124. (Web) www.ironhorse.com/~rustycon.** Monika Livingstone, M. Citrak.

15–17—**High Flight, 7657 Winnetka Ave. #220, Canoga Park CA 91306.** Holiday Inn, Cocoa Beach FL. Josepha Sherman.

16–17—**Creation's Fangoria's Weekend of Horrors, 664A W. Broadway, Glendale CA 91204. (818) 409-0960.** New York NY.

22–24—**ConFusion, Box 8284, Ann Arbor MI 48107. (734) 487-8743.** Van Dyke Park Suites, Warren MI. Bujold, DeVore.

22–24—**Potlatch, 355 Howard St., Eugene OR 97404. (E-mail) potlatch@efn.org.** Doubletree Inn. Literary SF convention.

30—**Creation, 664A W. Broadway, Glendale CA 91204. (818) 409-0960.** Convention Center, Sacramento CA. Herc & Xena.

FEBRUARY 1998

5–7—**XI-Lophone, 34 Hill Top Dr., Oakham, Leicestershire LE15 6NF, UK.** Windsor Hotel, Berkshire UK. SF folksinging.

12–14—**Boskone, Box 809, Framingham MA 01701. (617) 625-2311.** Sheraton Tara. C. Willis, S. Youll, T. Harvia, Thaver.

12–14—**RadCon, 2527 W. Kennewick Ave. #162, Kennewick WA 99336. (509) 943-0713.** Doubletree, Pasco WA. Mike Mosco

12–14—**KatsuCon, Box 11582, Blacksburg VA 24060.** Hyatt Regency, Crystal City (Arlington) VA. Anime.

12–15—**CostumeCon, Box 34739, Philadelphia PA 19101. (AOL) CCXVII.** Hilton, Cherry Hill NJ. Costumers' annual meet.

12–15—**Gallifrey, Box 3021, N. Hollywood CA 91609. (818) 752-3756.** Best Western Airtel, Van Nuys CA. Dr. Who.

19–21—**Lightspeed, 16 Bramwell, Eastwood, Rotherham S. Yorks. S65 1RZ, UK. (01709) 367-321.** Aldred, Ashton. Media.

25–28—**Winter Fantasy, Box 13500, Columbus OH 43213. (614) 856-3976.** O'Hare Ramada, Rosemont (Chicago) IL. Gaming.

26–28—**SheVaCon, Box 416, Verona VA 24482. (540) 886-2154.** Ingleside Resort, Staunton VA. Steve White, R. W. Smith.

26–28—**MarsCon, Box 11414, Minneapolis MN 55111.** Radisson South, Bloomington MN.

26–28—**Redemption, 28 Diprose Rd., Corfe Mullen, Wimborne Dorset BH21 3QY, UK.** Int'l. Hotel, Ashford, Kent. Media.

AUGUST 1999

26–29—**Conucopia, Box 8442, Van Nuys CA 91409.** Anaheim CA. Poumelle. The North American SF Con (NASFiC). $70.

SEPTEMBER 1999

2–6—**AussieCon 3, Box 688, Prospect Heights IL 60070.** Melbourne, Australia. Gregory Benford. The WorldCon. US$155.

AUGUST 2000

31–Sep. 4—**ChiCon 2000, Box 642057, Chicago IL 60664.** Bova, Eggleton, Baen, Turtledove, Passovoy. WorldCon. $140.

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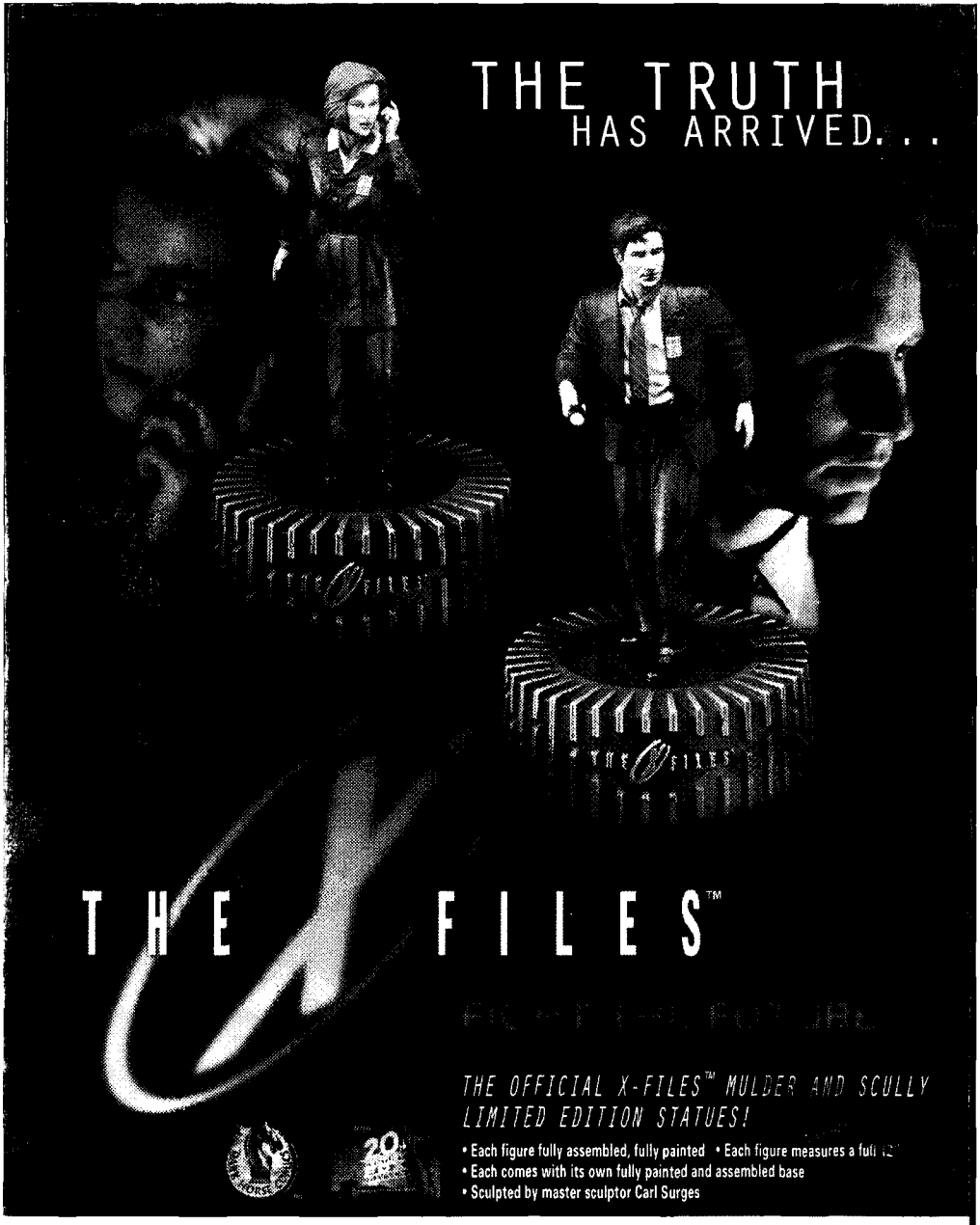
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